ARCHAEOLOGICAL INVESTIGATIONS

AT P-53-000942/CA-TRI-942, TRINITY COUNTY, CALIFORNIA

by

L. Kyle Napton, Ph. D. and E. A. Greathouse, M. A.

With contributions by

Brian D. Dillon, Daniel G. Foster, Richard C. Jenkins, and Linda C. Pollack

August 2010

Prepared for:

California Department of Forestry and Fire Protection
P.O. Box 944246
Sacramento, CA 94244-2460

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Abstract

Archaeological site CA-TRI-942 near Weaverville, California, was sampled by a data recovery program directed by Dr. Brian D. Dillon in 1993. Excavation of four one-by-two-meter square units and one profile display cutting revealed anthropic deposits to a depth of 140 cm below the surface. Excavation yielded 35 typeable projectile points, the majority Gunther Contracting Stem; 2,665 pieces of debitage, consisting of 1,654 obsidian flakes attributed to the Grasshopper Flat/Lost Iron Well/Red Switchback geochemical group and 601 flakes attributed to a Tuscan obsidian geochemical source. The remaining consisted of 182 chert, 120 basalt, and 108 quartzite flakes. Fauna remains consisted of 1,475 fragments of unmodified mammal bone. Ground stone implements include handstones, pestles and hammerstones. Hopper mortars, present at nearby sites, were not represented in the collections from this site.

Anthropically-affected deposits sampled by Unit 4, the profile display cutting, were screened through one-quarter-inch-mesh-screen (6.35 mm); the materials passing through it were captured on a one-sixteen-inch-mesh (1.6 mm) screen, yielding a total of 672 pieces of debitage and 595 bone fragments. All of the latter had been intentionally comminuted by the site's occupants; none could be identified as to species, although most are fragments of the bones of ungulates, likely deer. Neither fish nor bird bone was found. None of the faunal remains were subject to radiometric dating due to lack of funds; however, on the basis of the projectile point assemblage, the site is attributed to the Shasta Complex (Shasta Aspect of the Augustine Pattern), dated ca. AD 700 to 1840.

Laboratory analysis and data preparation was directed in 2009 to 2010 by E. A. Greathouse; the report was written in 2009-2010 by Dr. L. Napton and E. A. Greathouse on behalf of CAL FIRE, the sponsoring agency of the data recovery program. The collections are to be curated by the Jake Jackson Memorial Museum, Weaverville, CA.

The location of this site is unspecified in order to protect it from molestation and to make this report more widely available. Qualified researchers who might need to know its location may obtain such information through professional channels.

Acknowledgments

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We are grateful to CSUS Archaeology graduates Mario de Sa Campos, Stefanie Griffin, Robin Hards, Rebecca Jarrett and Ryan Johnson, and undergraduate Stephanie Sierra for their welcome and diligent assistance during analysis and tabulation of debitage and other specimens from the site. As usual, Julie Rueben and her staff at CSU Stanislaus Interlibrary Loan were more than helpful.

Preface

I want to share my thoughts on the significance of this site discovery and its connection to the development of what I believe to be a highly successful archaeological site protection program within CAL FIRE.

On December 19, 1983, BLM Archaeologist Eric Ritter called me at my CDF (now CAL FIRE) office in Sacramento to report his recent discovery of an archaeological site near Weaverville. Eric observed the site while walking down a logging road across privately-owned timberland to reach a BLM parcel near the Trinity River. He was excited about the significance of his discovery but disappointed that CDF (the lead agency responsible for review and approval of non-federal commercial timber operations in California) had approved this Timber Harvesting Plan (THP) without identifying the site or requiring its protection. Eric reported that the site is located within a clear-cut unit which had been hit hard during the recent timber operations. I immediately contacted the CDF foresters in Redding and Weaverville, who in turn contacted the private timberland owner, and a field inspection was scheduled the following day. I hustled on up to Weaverville to lead a CDF team to formally record the site, evaluate the logging impacts, and develop appropriate recommendations for its management. That field inspection took place on December 20, 1983 and was attended by myself, Eric Ritter, and about 10 state and private foresters.

Eric was right. This terrific little site was laid bare by the recently-completed timber operations - especially the site preparation activities implemented for re-planting trees. The Forest Practice Rules which existed in 1983 didn't require archaeological surveys for THP development and the Department only rarely utilized archaeological expertise during the THP review and approval process. As a result, very few sites were identified prior to timber operations. Since I was hired by CDF in December 1981, this was the third time I was called-out to look at an active THP - each time to inspect and evaluate an archaeological site clobbered by logging. It was during my review of this site that I decided to not wait for the next phone call; but instead get working on implementing changes to help the Board of Forestry, CDF and private timber companies develop effective procedures to protect cultural resources. The site recognition training which Eric and I delivered to the 10 foresters in attendance that day, and their enthusiastic and supportive response to what we were teaching, initiated a cooperative partnership between foresters and archaeologists, and between private timberland managers and state regulators, which continues to this day. Our efforts eventually led to the adoption of comprehensive Forest Practice Rules to identify and protect cultural resources which otherwise would be endangered from timber operations on privately owned land. Discovery of this site and subsequent actions which followed had a profound impact on the development of an Archaeology Program within CAL FIRE. They also helped shape the way forestry is practiced within California to now include consideration of cultural resource values within the forest landscape being managed.

I recommended that CDF sponsor limited investigations at this site to explore its age, function, and significance, as partial mitigation for the impacts received and anticipated in the future, but lack of state funding delayed the start of this project until 1993. Our great friend and colleague Dr. Brian Dillon agreed to take on the assignment pro bono with very little state funding - barely enough to support the cost of field crew and supplies. He completed an excellent week of fieldwork but the absence of sufficient funding prevented his completion of analysis and final report. At my request, Dr. L. Kyle Napton and Elizabeth Greathouse, two outstanding CAL FIRE colleagues, agreed to complete the study and report on our behalf.

This is a really good descriptive site report for an area of our state which is not well-known and it will make a valuable contribution to the archaeological record of Northern California. I am delighted to see the completion of this excellent report and want to express my sincere thanks and appreciation to all of the many fine people who helped make it happen.

This is an example of public service archaeology at its finest.

Dan Foster
June 3, 2010
Sacramento, California

1. INTRODUCTION

Archaeological site CA-TRI-942 was discovered by Dr. Eric Ritter, Archaeologist, Bureau of Land Management, Redding, in December 1983. It was inspected and recorded by CAL FIRE Archaeologist Dan Foster and Dr. Ritter, CAL FIRE Foresters Steve Dunlap and Pete Finney on December 20, 1983 (Figures 72-74). The Archaeological Site Record Form they prepared states that they observed eight projectile points, one drill or perforator, one mano, and numerous pieces of debitage and fire-cracked rock in the bed of an existing, but recently re-constructed log haul road that transgressed part of the site. They identified some of the projectile points as attributable to the Gunther series.

Among the interesting features of the site were cupule petroglyphs carved in a steatite outcrop and, juxtaposed, initials carved in the rock, accompanied by the date "1906," also incised in steatite (Figures 83-90, 104-109). This feature is located 72 m from excavation Unit 2. Foster and Ritter (1983:3) describe this feature on the Archaeological Site Record as follows:

> A soapstone boulder was located approximately 70 meters ESE of the spring, just uphill from the midden deposit. The top of this boulder contains numerous (about 10 or so) small shallow pits (cupule petroglyphs). The boulder also exhibits numerous saw marks from the quarrying and removal of square-sided blocks. On some of the cut faces, initials in capital letters (WPM, WPM, JEL, AA, CH) and one possible date (1906) - very faint - have been inscribed. The soapstone quarrying was probably associated with the construction of the limekiln ½ mile west as this historic structure is reported to contain soapstone blocks.

Another feature of the site is the presence of an anthropic (midden) deposit, partially exposed by the roadcut, revealing anthropically affected subsurface strata containing both flaked and ground stone artifacts. The road existed prior to the timber harvest operations conducted in 1981-83, and it is evident that part of the site was impacted during its construction. Subsequently, it was widened to serve as a log haul road which further impacted the site. Additional damage doubtless occurred when the entire timber harvest clear-cut area was extensively modified by tractors that removed all of the scattered conifers and oaks within the clear-cut unit. All vegetation was removed and the entire area ripped to prepare it for subsequent tree planting. This preparation included denuding the area of all vegetation, which was mechanically piled and burned to create a clean site for conifer and oak regeneration. This procedure probably resulted in damage to the surface and upper strata of the archaeological site.

The private foresters that prepared the initial timber harvest plan and the state foresters involved in its pre-approval review are not to blame for failing to identify the presence of an important archaeological site within the clear-cut unit. Had they known of its existence they would have altered the Timber Harvest Plan (THP) to protect the site in accordance with the Forest Practice Rules (FPR) which were in force in 1981 (the year that the THP was approved), but the FPR contained no provisions to require pre-approval archaeological surveys as part of plan research, development, or state review. By the mid-1980s it became clear that significant damage to archaeological sites was occasionally occurring. By 1991 the Board of Forestry, at the urging of CAL FIRE developed comprehensive archaeological site protection rules after becoming aware of such occurrences. The incident involving CA-TRI-942 and the damage to other sites led to implementation of protective measures, as discussed in the *History of the California Department of Forestry and Fire Protection Archaeology Program 1970-2004* (Foster and Betts 2004:19-26, 36-40).

The downside of the site, as it were, was the fact that a not inconsiderable amount of the anthropic deposit was destroyed by the initial construction of the access road and its later conversion to a log haul road, impacts exacerbated by the activities of persons unknown, who had dug pits in the road cut in search of artifacts. Accordingly, Dan Foster attempted to initiate salvage excavations to recover a viable sample of data to assess the potential significance of the site before it was further impacted.

Negotiations were undertaken between the California Department of Forestry and Fire Protection and the management of the Southern Pacific Land Company that owned the property in 1983 (this company was later acquired by Sierra Pacific Industries). The proposed mitigation project was not immediately funded. Subsequently, however, Foster was able to obtain funds to finance limited test excavations at the site. Field work was supervised by Dr. Brian Dillon, who in June and early July 1993 assembled a field crew and directed excavations (Figures 91-94). Four one by two-meter-square test units and one profile display cutting were opened, and numerous artifacts were found and documented. During these investigations the profiles of each entry were recorded, the site was mapped by transit, specimens were obtained from the haul road surface, and numerous photographs were taken, most of which appear in this report.

The recovered physical data samples and records were curated by Dillon from 1993 to late 2009, when Foster asked the senior authors if they would be available to examine the materials from the site and prepare a report describing the excavations, documenting the data recovered, and assessing the site in its regional perspective. They acquiesced, and Dillon arranged for transmittal of materials, once via CAL FIRE Archaeologist Richard Jenkins and his wife Theresa, and subsequently by CAL FIRE Archaeologist Linda Pollack, who delivered the materials to the Archaeology Laboratory at California State University, Stanislaus, where the specimens were examined in detail. During the period when the specimens were in his custody Dillon had requested colleagues (Backes and McCammon) to prepare pen and ink drawings of the majority of the site's projectile points; these depictions appear in this report. Other specimens were photographed in the CSUS Archaeology Laboratory. At CSUS, the authors and their student assistants processed the collections and found that several analyses remained to be completed, for example, study of the debitage.

2. RESEARCH CONTEXT:

NATURAL AND CULTURAL SETTING

Natural Setting

Archaeological site CA-TRI-942 is located in Trinity County, a large, mountainous, heavily forested county in northwestern California (Figures 67, 68). Trinity County contains most of the Shasta-Trinity National Forest and the Trinity Alps, which rise to 9,002 ft NAVD 88. The region in which the site is situated, part of the Klamath Mountains, is geologically complex, consisting of lengthy sequences of sedimentary deposits affected by uplifting and subsequent erosion of granitic formations associated with the Trinity Alps. The geological background of the Klamath Mountains is discussed by several authors (Albers 1966:51-62; Alt 2000; Bailey 1966; Blake 1984; Davis 1966:39-50; Harden 1998; Hinds 1952; Hirt 1999; Irwin 1966:19-38; Macdonald 1966; McGeary 1974; Norris 1990; O'Brien 1965; Orr and Orr 1985; Phillips 1989).

Important varieties of toolstone, including obsidian and chert, were obtained from sources in northern California (Blake 1984), and steatite, used to make decorative and utilitarian items, outcrops at the site.

Climate

The climate of Trinity County is characteristic of the mountainous region of northern California. Annual precipitation varies from 30 to 80 inches; snowfall is heavy in the mountain country, which ranges in altitude from 553 to 9000 ft. NAVD 88. Weaverville, at an altitude of 2,047 ft, receives an average annual precipitation of 35.84 inches. Monthly temperatures range from 37 degrees in January to an average of 71 degrees in July. These figures are pertinent to the subject site, which is not far from Weaverville. The average annual temperature in this area is 53 degrees; with annual temperatures ranging from 3 degrees below zero to a maximum of 113 degrees Fahrenheit on occasion during the summer months.

Geology

Trinity County subsumes portions of two geomorphic provinces: the northeastern part, covering approximately two-thirds of the county, is within the Klamath Mountains province, which includes flat-topped ridges and glaciated peaks--the Trinity Alps. The southwestern part of the county lies in the Coast Ranges province; the highest elevations are about 6800 ft. The separation of these two provinces is determined by the fact that the principal rock units of the Klamath Mountains are, according to O'Brien (1965), "older than Cretaceous and are intruded by granitic rocks, whereas those of the Coast Ranges are mostly Late Jurassic and Cretaceous in age and are not intruded by granite."

The geology of Trinity County is described by Irwin (1960, 1966), who discusses four concentric belts along Highway 299. Of particular interest in reference to site CA-TRI-942 is the third belt, the Western Paleozoic and Triassic belt, which is about twenty miles wide. According to Irwin (1960) it consists of "slightly metamorphosed shale and sandstone (slates), chert, greenstone and limestone. . . . Slate and chert are the two most abundant rock types. . . . Long lenses of limestone have been noted near Hayfork Valley and Junction City." In reference to the subject site area, O'Brien (1965:50) states, "Soapstone was produced from a deposit near Weaverville prior to 1905, sawed into blocks, and used locally as fireplace bricks." Mining of this deposit was reported early in the nineteenth century (Aubury 1906:353).

An interesting regional geological feature is the Weaverville Formation. Phillips (1989:ix, Figure 2) provides a generalized location map illustrating the extent of the Weaverville Formation, which he notes (following Strand 1962) as extending from Trinity Lake southwest to Weaverville, where it terminates at major fault lines. Phillips (1989:30, Figure 17) notes the presence of fluvial conglomerates on Browns Mountain, which includes the area around site -942. Phillips (1989:121) states:

> The base of the Weaverville Formation commonly consists of a lacustrine facies that occurs at the southeastern margin of the Weaverville basin, adjacent to the La Grange fault. These sediments are overlain by alluvial floodplain sediments, punctuated by coarse channel fill and longitudinal bar deposits. These are, in turn, overlain by regionally derived multistoried fluvial conglomerates intercalated to the west with locally derived debris flow deposits which coarsen and thicken towards the fault and upwards within the section. In the northwestern corner of the Weaverville basin, slide breccias are interstratified with debris flows proximal to the fault.

Phillips (1989:128, Table 1) presents data referring to the frequency of standard clast types in the Weaverville Formation conglomerates. These include chert (metachert, white, green, and black), argillite-hornfels-slate, and greenstone metavolcanics, most of which are represented in the cobble detritus observed at site -942 and also in sections on Browns Mountain Road examined by Phillips.

Environment

Site CA-TRI-942 is situated at an approximate elevation of 2,624 ft NAVD 88 (800 m), overlooking the canyon of the Trinity River, on the south-facing slope of one of the numerous outliers of Browns Mountain. It is situated at the head of a narrow canyon drained to the south by small spring-fed streams, tributaries of the Trinity River, which in turn, via the Klamath, enters the Pacific Ocean (Beck and Haase 1974). Although of moderate elevation, the surrounding terrain exhibits considerable relief with locally steep slopes (Figure 1).

The region in which the site is situated is part of the densely forested Salmon/Klamath Mountains, forming the southwestern flank of the Cascades (Fenneman 1931). The ecological setting of the region is comparable to the *Eastside Ponderosa Pine Forest* (NDDB Natural Community Element Code 84220) (Holland 1986:108), within the "Yellow Pine Belt" (Transition Zone) discussed by Allen (1988:46-47), Barbour and Major (1977), Küchler (1964; 1988:909-938), Mayer and Laudenslayer (1988), Merriam (1898), and Storer and Usinger (1963:27). The overstory of the area surrounding the site consists of various species of conifers and hardwoods, notably Ponderosa Pine (*Pinus ponderosa*), Incense Cedar (*Libocedrus decurrens*), White Fir (*Abies concolor*), Black Oak (*Quercus kelloggii*) and associated species, including California Buckeye (*Aesculus californica*). The understory is composed of Manzanita (*Arctostaphylos* sp.), Deer Brush (*Ceanothus integerrimus*), Redbud (*Cercis Occidentalis*), Laurel (*Leucothoe davisiae*), and Poison Oak (*Rhus diversiloba*). Mesic vegetation on slopes flanking watercourses includes White Alder (*Alnus rhombifolia*) and Willows (*Salix* sp.) (Anderson and Moratto 1996; Baumhoff 1963, 1978; Brown and Livezey 1962; Ingles 1965; Storer and Usinger 1963; Whitney 1985). The region is dominated by sclerophyllous vegetation; the overstory is composed of a mixed hardwood/conifer association, while the locally dense understory is primarily manzanita and chaparral. Ground cover consists of native and introduced grasses and forbs.

During prehistoric times the abundant natural resources of northern California provided subsistence for numerous Native American tribes (Baumhoff 1963; Heizer and Elsasser 1953, 1980). Wildlife species typical of the region during prehistoric times included black-tailed deer, bear, elk, cottontail, beaver, gray foxes, skunks, bobcats, coyotes, ground squirrels, badgers, and rattlesnakes; avifauna included ducks, eagles, red-tailed hawks and California quail. Many species of the larger mammals are of course locally extinct, but many smaller mammals, birds, and fish (the latter including salmon and steelhead), are found in varied environments throughout the region. Mountain lions and bear are extant, although infrequently glimpsed, whereas deer are plentiful and highly visible throughout the region.

Current Land Use and Previous Impacts

The region surrounding site -942 has been subject to moderate development, mostly in the form of private residences, vacation cabins, and recreational facilities. Such rural development is one of the more obvious effects resulting from the ever-increasing population expansion throughout California (Chow 1970). Significant impacts affecting the site area in the past include commercial timber harvest operations. From the 1880s through the 1940s the lumber industry consisted of sawmills located in specific areas to provide local needs. However, the operation of these sawmills and production of lumber did not provide a major source of employment during that period. In the 1800s hydraulic placer and hard rock gold mining was the primary industry, although the mines required sawmills for timbering and flume construction. In the 1940s the United States Forest Service began its commercial timber sales with the establishment of a road system which provided access to timber harvest areas and enabled the transport of logs to the sawmills. At that time the timber industry superseded mining as a major source of employment in Trinity County. Today recreation is important, as visitors from nearby Redding and elsewhere journey to the mountain country to escape the intense heat of summer days in the Sacramento River valley (Allen 1989; Cox 1858/1940; Thielemann 2000:29-54).

Cultural Setting

Archaeological Background

Archaeological investigations have been underway for many years in Trinity County and its neighbors, Shasta and Tehama counties. The results of selected investigations are discussed briefly in this section to establish the archaeological background of site -942. The archaeology of the North Coast Ranges and Trinity River country is reviewed by Fredrickson (1984), Eidsness (1985), and Nilsson (1990), among others.

Based on research conducted in Lake, Sonoma, Napa and Mendocino counties Meighan (1955) proposed a cultural sequence for the North Coast Ranges, identifying six complexes:

I. Borax Lake Complex (2000 BC - AD 300)
II. Mendocino Complex (AD 100 - 500)
III. McClure Complex (AD 700 - 1200)
IV. Wooden Valley Complex (AD 1500 - 1800)
IV. Clear Lake Complex (AD 1700 - 1850)
V. Shasta Complex (post AD 1600)

The Borax Lake Complex was defined primarily on the basis of investigations by Harrington (1948) at Borax Lake (CA-LAK-36). Meighan initially proposed a modest date for the onset of human occupation at the Borax Lake site, but this estimate was dramatically revised as a result of additional field work by Meighan and Haynes (1970). Their investigations disclosed the presence of three discrete episodes of occupation. The earliest, dated between ca. 12,000 and 8000 years before present (BP), features fluted points and crescentic implements. The succeeding phase, dated between ca. 8000 and 6000 years BP, is characterized by Borax Lake wide stem projectile points, and manos and metates. The latest phase, dated from ca. 5000 to 3000 years BP, features non-fluted concave base points, stemmed points, and manos and metates.

The Mendocino Complex, dated by Meighan at ca. AD 100 to 500, was also subject to revision, placing it between 5000 and 1000 BP. Diagnostic artifacts include lanceolate, concave base, diamond-shaped, stemmed, corner-notched, and side-notched points, hafted end scrapers, drills, bowl-shaped mortars and bulbous ended pestles, cylindrical-shaped mortars used with pestles having one flattened and one pointed end, and plummet-shaped charmstones.

The Shasta Complex was defined on the basis of investigations at Round Valley conducted by Meighan (1955), who concluded that the complex was widespread, ranging from the coast east to the Upper Sacramento River valley and thence northward, well into Oregon. Meighan estimated the initial date of the Shasta Complex as post-AD 1600. The traits he identified as characteristic of the complex are as follows:

- Habitation sites with ashy midden mounds up to ten feet in depth closely associated with stream courses and commonly containing the remains of semi-subterranean houses
- An economy based on hunting and gathering
- Use of the bow and arrow for hunting, the characteristic projectile point forms having a small stem and long tangs
- Large bi-pointed chert blades used as knives
- Reliance on acorns which were ground with hopper basket mortars and pestles
- Spire-lopped *Olivella* beads, *Haliotis* pendants, and possibly clam-shell disc beads and pine nuts used for ornaments
- The extremely rare occurrence of spindle-shaped and phallic charmstone forms
- Burials in the midden, variable as to position and orientation

Other attributes of the Shasta Complex are the following, listed by Nilsson (1990:32):

- Relatively sedentary/semisedentary lifestyle with inhabitants occupying villages along the banks of major rivers and streams
- Riverine and acorn dominated subsistence orientation
- Heavy reliance on Gunther Barbed series projectile points
- Flaked stone tool industry dominated by obsidian toolstone
- Use of hopper mortars and pestles for plant processing
- Lack of mano or millingstones
- A varied artifact assemblage which includes winged drills, arrow shaft polishers, composite toggle harpoon tips
- Decorative art work/ornament including shell beads and pendants (*Olivella, Haliotis, Glycymeris, Dentalia,* and clam shell) and incised bone

The status of the Shasta Complex in Northern California prehistory is considered at length by Sundahl (1982). One of the hallmarks of the complex is the presence of Gunther series projectile points. Sundahl (1982:172) averred the Gunther series had a chronological dimension: she considered Gunther expanding stem the earliest form, succeeded by Gunther parallel stem and, finally, the latest form, Gunther contracting stem (Sundahl 1982:172, Figure 34).

The Shasta Complex was the subject of provocative contributions by Farber (1985:75-88; 1987), who reported Shasta Complex sites in mountainous country outside stream and riverside environments. Farber held that the mano and metate and Whiskeytown Side-notched points are associated with the Shasta Complex in upland areas, while other researchers attribute those artifacts to a pre-Shasta cultural component or a different cultural component, but not the Shasta Complex. Farber argued that during the Shasta Complex the sedentism and economic specialization identified with it might be characteristic only of Wintu groups living in the Sacramento River valley, whereas the mountain dwellers were more mobile and economically diverse.

Farber (1987:28) stated that diverse environmental factors made it impossible for upland dwellers to sustain a lifeway based on year-round, permanent occupation of villages in the mountains. His arguments stem from the great interest in cultural ecology and environmental interrelationships manifested in California archaeology from the 1960s through the 1980s (Baumhoff 1963, 1978; Beals and Hester 1968; Evans 1978; Pilgrim 1987). An alternative, tangential view is expressed by Jones and Raab (2004:1-9). In any case, Farber's hypothesis, while essentially cloaked in the currently disdained concept of environmental determinism, can be tested, perhaps by investigation of sites external to the Sacramento River valley, such as site -942.

Gunther series projectile points are one of the hallmarks of the traditionally-defined Shasta Complex. They are small, often amazingly so, ranging to medium-size triangular points having straight to slightly convex edges and weighing less than 3 g. Gunther barbed points have tangs or barbs that extend downward, and, depending on subtype, curve ventrally. The classic "Gunther barbed" type found by Loud (1918:221-437) and described typologically by Treganza (1958:1-38) has tangs that extend below the base of the stem. Subtypes include Gunther Short Barbed (tangs shorter than length of the stem), Gunther Abrupt (tangs extending laterally outward), and Gunther Round Shoulder (generally diamond-shaped with sloping rounded shoulders). Loud believed, correctly, that these points are attributable to the Late Prehistoric period, whereas Pippin et al. (1979) date comparable examples to AD 335, while Elston et al. (1983) consider the series as time markers from AD 500 to the Late Prehistoric period. Gunther series projectile points appear in the *Redbud Phase* (AD 500-1300) at sites along the Stanislaus River in the Sierra Nevada (Moratto et al. 1988). In reference to "Gunther" projectile points, it may be remarked that members of the Wiyot tribe of Northern California state that they prefer that the name "Gunther" be replaced by *Tuluwat*, but the former name is embedded in the regional archaeological literature and of course appears in passages quoted in this report.

Some twenty years after publication of the chronological sequence proposed by

Meighan, Fredrickson (1974), following Willey and Phillips (1958) and Ragir (1972), identified five cultural periods and related patterns and aspects applicable to the Northwest Coast:

I. Paleo-Indian Period (10,000 - 6000 BC) (Post Pattern)
II. Lower Archaic Period (6000 - 3000 BC) (Early Borax Lake Pattern)
III. Middle Archaic Period (3000 - 1000 BC) (Late Borax Lake Pattern)
IV. Upper Archaic Period (1000 BC - AD 500) (Berkeley Pattern; Houx Aspect)
IV. Emerget Period (AD 500 - AD 1800) (Clear Lake and Shasta Complexes)

Fredrickson's "Post Pattern" is based on the oldest component at Borax Lake. Other periods that he identified are approximately congruent with those posited by Meighan. Another contribution to identification of areal cultural sequences is provided by Hildebrandt and Hayes (1984) and Hildebrandt (2007:83-97) in reference to the northern part of the North Coast Ranges. They discerned three entities: Borax Lake Pattern (6000 - 1000 BC); Willits (1000 BC - AD 500); and Augustine/ Gunther (AD 500 - 1500). Excavation and analysis of four sites in the Sacramento River Canyon provided data that defined an areal chronological sequence (Basgall and Hildebrandt 1989). Three phases were identified: Polard Flat, Vollmers, and the oldest, Mosquito Creek, dating to 1180 BP. An important series of investigations has been conducted by White and Fredrickson at Anderson Flat near Clear Lake (White and Fredrickson 2002).

Lake Oroville Complexes. Archaeological investigations focused on prehistoric remains at Lake Oroville along the Feather River in the foothills of Butte County (Olsen and Riddell 1963; Ritter 1970). Ritter traced the development of the Mesilla, Bidwell, Sweetwater, Oroville and Historic complexes, collectively spanning some 3000 years, culminating in the ethnographically-known Maidu. The Mesilla Complex is known at sites CA-BUT-84, -98, and -157. Mesilla Complex remains are interpreted as indicating seasonal occupation of the foothills between 1000 BC and AD 1. Animals were hunted with atlatl and dart; vegetal foods were processed in bowl mortars and on milling-stones. Contact with Sacramento Valley cultures is inferred by the presence of *Haliotis* and *Olivella* beads and charmstones, whereas contact with components of the Martis Culture may be indicated by use of basalt, slate, and chert for projectile points.

The Bidwell Complex, dated circa AD 1 to AD 800, is characterized by relatively small, but apparently permanent villages. Residents of these villages hunted deer and small game, obtained fish (as indicated by the presence of grooved and notched sinker stones), and processed seeds and acorns on millingstones and, perhaps, in wooden mortars. Slate and basalt points were made; steatite vessels were used for cooking. The dead are buried in flexed, dorsal or lateral positions.

The succeeding Lake Oroville Sweetwater Complex, AD 800-1500, is identified at CA-BUT-90 and -131 by the presence of *Olivella* and *Haliotis* beads accompanied by an industry heavily dependent on steatite. The bow and arrow was probably used, as indicated by occurrence of small, lightweight projectile points such as Eastgate, Rose Spring, and Gunther barbed types. Burials usually occur in flexed or extended attitudes. The Oroville Complex, considered by Ritter (1970) as representing the protohistoric Maidu, flourished from AD 1500 until the epidemic of 1833. Bedrock mortars were used for processing vegetal foods. Characteristic Oroville artifacts include incised bird bone tubes, gorge hooks, gaming bones, and clamshell disk beads. Several kinds of structures, including circular dance or assembly houses, were erected. Moratto (1984:300) notes that "the Lake Oroville sequence ends with the Historic Complex," but the Historic Complex is not well known in this region due to the severity of the epidemic of 1833 (Cook 1955b), and drastic deculturalization when gold miners arrived in the territory in the 1850s.

Tehama County Archaeology. Several archaeological sites and survey projects have been undertaken in eastern Tehama County. However, Sundahl (1993a:154) states, "Excavated sites in the Sacramento River-Southern Cascades region are relatively few, and reporting techniques vary considerably, making exact comparisons difficult." Some of the principal sites include CA-TEH-1 (Kingsley Cave) (Baumhoff 1955); CA-TEH-58 (Treganza 1954); CA-TEH-193, (Payne Cave) (Baumhoff 1957); CA-TEH-256, -261, and -262 (Thomes Creek sites) (Edwards 1970); CA-TEH-1432 (Spider Rockshelter) (Ritter 1987); CA-TEH-1488 (New Creek Site) (Nilsson et al. 1991); and CA-TEH-1490 (Bebensee Site) (Hamusek-McGann 1988, 1996). The Redding Office of the Bureau of Land Management, under the aegis of archaeologist Eric Ritter, has conducted an active program of archaeological survey, testing and excavation of sites in Shasta and Tehama counties.

A basic prehistoric cultural sequence pertaining to the Yana and their predecessors was postulated by Baumhoff (1957), based on his work at Kingsley and Paynes caves in Tehama County. Baumhoff discerned evidence of a two-phase sequence: the earliest, the Kingsley Complex, is succeeded by the Mill Creek Complex, which Baumhoff regarded as representing the ethnographic Yana. Later, Johnson and Theodoratus (1984) proposed a five-phase cultural sequence for the Yana region (Johnson 1978:361-369, see Table 2).

Shasta County Archaeology. In general, the best available summary of Shasta County's prehistoric archaeology was compiled by Moratto (1984:446 ff.) in his monumental review of California prehistory. Moratto presents the results of investigations as of 1984, and the record, as he admits, is indeed a fragile tapestry. Moratto (1984:442, Figure 9.5) maps the approximate location of ten Shasta County archaeological sites, but only six are discussed in text (CA-SHA-46, -47, -169, -170, -177, and -475). Of these, site CA-SHA-46 was excavated by the zealous archaeologist Robert Heizer (1936), investigations apparently undertaken to ascertain the northerly extent of the Central California "horizons"--the classic "Early, Transitional, and Late" archaeological phases manifested in the Sacramento-San Joaquin Delta region.

Numerous archaeological investigations or excavations have been conducted in Shasta County, including but by no means limited to the following projects: archaeological investigations in the Tower House District, Whiskeytown Unit of the Whiskeytown- Shasta-Trinity National Recreation Area (Baker 1984). Survey at the Whiskeytown area located twelve prehistoric sites, two of which contained historic components (Johnson 1977). Further survey at Whiskeytown in 1993 located thirteen more sites, five of which are prehistoric, six historic, and two multicomponent. Two environmental factors were identified as critical to the location of prehistoric sites: level terrain and proximity to water (Griffin et al. 1994). Investigation of the prehistory of the Sacramento River Canyon and excavations at CA-SHA-476, -1169 -1175, and -1176 (Basgall and Hildebrandt 1989); archaeological research in the Clikapudi Archaeological District (Clewett and Sundahl 1982); archaeological explorations in Shasta Valley (Hamusek-McGann 1995); study of the history and prehistory of the Latour Demonstration State Forest (Hamilton and Neri 1997) and excavation of site CA-SHA-1486 at Latour (Huberland and Dwyer 2001); archaeology of the Shasta Dam area (Smith 1952); survey and excavation in the Squaw Creek drainage (Sundahl 1992a, 1992b); salvage archaeological investigations along Clear Creek and Cow Creek (Treganza and Heicksen 1960); and archaeological investigations at a Sacramento River mining camp (CA-SHA-1450) (Vaughan 1986).

An important archaeological site of the Protohistoric Period in Shasta County, CA-SHA-1043, was excavated in 2005. Hildebrandt and Darcangelo (2008) state:

> Our efforts revealed a rich village deposit, providing a vivid picture of the distant past rarely seen. Most of the findings from the site document Wintu lifeways just before the arrival of Europeans into the area, in the early 1800s, when Wintu populations swelled to over ten thousand in the Upper Sacramento drainage area. Among the many important discoveries made were the remains of prehistoric houses, an earthen lodge, various cooking facilities, and a rich assortment of implements used for hunting, fishing, artistic expression, and processing wild plant foods. Our ability to understand the food preferences of these ancient peoples was further enhanced by the discovery of butchered animal bones and charred plant remains, the latter of which also improved our knowledge of past ecological conditions in the area, particularly the Sacramento River fishery.

This site was dated by five radiocarbon determinations, three of which date a house identified as Feature 3 at 184 BP and Feature 21, an earthen lodge (925 to 104 BP). Two other dates were obtained from *Olivella* shell beads associated with inhumations.

Two prehistoric sites (CA-SHA-169 and -170) located on the Sacramento River north of Redding were excavated in the 1960s, yielding 40 inhumations and associated artifacts (Treganza and Heicksen 1960). Interpretation of these sites provided sufficient information to identify them as related to the Shasta Complex, which is affiliated with cultures of comparable age in both the northern and southern reaches of the river. Sundahl (1992a:89-112) discusses the broad picture of cultural patterns and chronology in the northern Sacramento River country, placing archaeological remains in this region in five patterns/aspects: Borax Lake, Squaw Creek, Whiskeytown, Tehama, and Augustine. She also summarizes the Southern Cascade prehistoric cultural sequence.

Trinity County. The geographic region surrounding Trinity County embraces the coalescence of three archaeological regions (Moratto 1984; Figure 1, Figure 10.4); the Northcoast, Northeastern, and Central Valley regions, each of which contains subregions. Within the North Coast Region is the Northwest Coast subregion; the Northeastern Region contains the Cascade subregion; the Central Valley Region, the Sacramento Valley subregion. Thus, the external relationships of the Native American tribes that occupied these regions and subregions are potentially complex, a fact that may be appreciated by consulting regional overviews (Fredrickson 1969; 1984:471-528; Moratto 1984:193-216; Raven 1984:431-469; Sundahl 1982).

The pioneer chronological sequence for the North Coast region is based on data obtained by investigations at Lake Mendocino, and in Napa and Sonoma counties (Meighan 1955). Chronologies for the Sacramento Valley region reflect traits of the Central California Taxonomic sequence (Beardsley 1948, 1954; Bennyhoff and Fredrickson 1994; Ragir 1972; Raven 1984:431-469). In general, the archaeology of most of the Northeasten region was poorly known until the 1950s, when intensive investigations were undertaken prior to construction of seven water impoundment projects, including Lewiston and Trinity reservoirs (Moratto 1984:194). Survey of the proposed Trinity Reservoir disclosed evidence of 119 village sites, identified by observation of obsidian debitage, thermally altered rock ("cooking rocks") and structural depressions ("house pits"). It was apparent that various natural features influenced site locations. These include river terraces near productive fisheries, locations near springs or the confluence of rivers and their tributaries, and shaded areas suitable for summer camps. During these surveys it became evident that many sites had been damaged or destroyed by numerous activities, including placer mining, agriculture, logging, deep channel gold dredging, and reservoir construction. Excavations were undertaken at eight previously recorded village sites during the summer of 1957 (Treganza 1958; 1959:1-5; 1963; Treganza et al. 1967).

One result of data recovery in the reservoir areas was recognition of the chronological significance of "Gunther barbed" projectile points, originally found by Loud (1918:221-437) at Gunther Island (aka Indian Island), and identified as an index artifact of the Late Prehistoric and Historic periods by Treganza, as suggested by Heizer (Treganza 1959:14-15). The rather homogeneous archaeological assemblages found along the Trinity River were thought to have a limited time depth, perhaps not exceeding 1000 years. Many sites were attributed to occupation by the ancestral Wintu (Treganza 1959). Other archaeological research pertaining to Trinity County includes survey of the Ellen Pickett State Forest (Betts 1995). The Borax Lake Pattern is represented at South Fork Mountain and the Cox Bar site (CA-TRI-1008) in Trinity County. On South Fork Mountain, more than 120 prehistoric sites have been recorded, representing some 6000 to 8000 years of cultural activity (Sundahl 1993b). A limited survey near the Hayfork Divide located an extensive prehistoric chert quarry, lithic scatter and tool manufacturing area (CA-TRI-980) (Reinoehl 1984).

Several individual archaeological sites and/or districts are listed on the National Register of Historic Places (NRHP). Sites include Benton Tract, Squaw Creek, CA-SHA-786; districts include Swasey and Tower House; petroglyph sites include Cow Creek, Dersch-Taylor, Olsen, Slakaiya (CA-TRI-1) (Foster and Foster 2002). Sites in Trinity County listed in the NRHP include archaeological site CA-TRI-140, Hay Fork; Bowerman Barn, DE-NO-TO cultural district (Trinity Summit Area); historic districts include Helena, Lewiston, and Weaverville. Archaeological sites near the subject site are reviewed below (see **Part 3. Research Design: Relevant Regional Archaeological Sites**).

Results of a Northeast Information Center Records Search in 2010. A records search for an area including a one-mile radius of CA-TRI-942 was requested from the Northeast Information Center. The results are given below:

- CA-TRI-942 is the only recorded archaeological site in the search radius.
- There have been six investigations conducted within the one-mile radius, and one overview report prepared, referenced as follows:

NEIC Report #	Author/Date	Project
1513	Holub & Belden (1997)	Garcia THP
3966	Belden (1994)	Addison THP
4001	Twight (2001)	Teeter Totter THP
8023	Vaughan (2006)	Poker Bar Fuel Reduction
9601	Ritter (1982)	New Steiner Flat Right-of-Way
10405	Kersey (2008)	Replacement of 40 Poles on the Keswick-Trinity-Weaverville 60kV Transmission Line
Overview:		
10186	Bailey (2008)	Reclamation Managing Water in the West, The Other California Gold: Trinity County Placer Mining, 1848-1962

Ethnographic Background

Site CA-TRI-942 is located in the former territory of the Wintu, members of the Penutian language group, who occupied an extensive region in northern California. According to linguistic and ethnographic data, Wintu speaking people settled the upper Sacramento and Trinity River country about 1000-1100 years ago (Moratto 1984). Many Trinity and Hayfork Wintu place names were originally Chimariko, an older Hokan speaking group, indicating that the Wintu entered the Trinity River country relatively recently (Moratto 1984:562-563). Archaeologically, the late prehistoric expansion of Wintu peoples is identified with the Shasta Aspect of the Augustine Pattern (Fredrickson 1974; Moratto 1984:571).

An extensive ethnographic literature pertains to the Wintu. One of the first descriptions, albeit sketchy, is provided by Powers (1877). A brief discussion of Wintu geography and culture is presented by Kroeber (1925:351-356; 1962). However, the most detailed and authoritative ethnographic data were collected by Du Bois (1935). An excellent general account is given by Merriam (1955:3-25), who also describes various aspects of "Wintoon life" along the McCloud River (Merriam 1957:40-43). A comprehensive summary of Wintu ethnography is provided by LaPena (1972, 1978:324-340). Ethnogeographic information for various portions of Wintu territory has also been published (Guilford-Kardell 1980; Merriam 1957:40-43, 1966/67; Redding Museum and Art Center 1980; Shapiro 1990). There is an extensive bibliography (26 pages) of citations concerning the Wintu (Wintu Tribe n. d.). The *Native American Cultural Overview* compiled by Theodoratus (1981) for the Shasta-Trinity National Forest summarizes archaeological, ethnographic, and ethnohistoric information, and includes an annotated list of Wintu place names.

Wintu territory is subdivided into nine areas: the upper Trinity area was inhabited by the *Nomsu's* or "west-dwelling" people (Du Bois 1935:7; LaPena 1978:324). Merriam identified this group as "Num-soos" and describes their territory as being within the drainage basin of the Trinity River from its source south and west to Oregon Gulch, east of the mouth of Canyon Creek; thence into the mountains south of Douglas City (Merriam 1955:7, 1966/1967:261). Du Bois (1935), however, believed their territory only extended as far south as Lewiston, perhaps including the area in which the subject site is located.

Wintu living near the Trinity River shared several distinctive cultural characteristics. For example, they constructed dwellings made of poles and bark, and used slings in warfare (Kroeber 1925:356, 358; Powers 1877:241). They utilized digger pine nuts and *Wyethia* seeds as sources of food. Arrow shafts were made from shoots of syringa. Several ethnogeographic place names are known along the Trinity River. The Wintu name of the Lewiston Valley was *Wy-elte-pom*, meaning "valley of the northland" (Merriam 1955:11-12). *Kol'-lb* was a large rancheria on the south side of the Trinity River on the Lowden Ranch, about three miles west of Lewiston (Merriam 1977:195). Still other villages were located in the general vicinity of Lewiston and Douglas City (Merriam 1977:199; Nilsson 1990:31), but none are known to be associated with site CA-TRI-942.

The Ethnohistoric or Contact period in central Trinity County is characterized by drastic impacts suffered by the natives, impacts that were unfortunately all too characteristic of California's mining era--a dismal chronicle of disenfranchisement and atrocities that eventually led to the near extinction of the Wintu and their neighbors. In the 1830s a malaria epidemic took the lives of nearly 75 percent of Native Americans in the upper Sacramento Valley (Cook 1955b). In 1850, whites gave a "friendship feast" and deliberately poisoned the food, killing 100 Trinity Wintu (LaPena 1978:324). Conflict with white settlers resulted in the "Bridge Gulch Massacre" in 1852 (Hoover et al. 1958:378-382; Jones 1981:333). In 1858-1859 an official "Wintoon War" was launched against the Bald Hills and Trinity Wintu (LaPena 1978:325).

The arrival of gold seekers in California during the 1850s caused many tribes to suffer cultural collapse. For the Wintu it meant violent encounters. Atrocities were committed, ultimately by both sides (Moak 1923), resulting in rapid, virtually complete extermination of the tribe and its cultural framework. The destruction of Native American tribal cultures in the Central Valley, Coast Ranges, and Sierra Nevada from 1776 to modern times is discussed by Beals (1933), Cook (1943, 1955a, 1955b, 1960, 1962a, 1962b, 1968, 1970, 1972), Gray (1993), Hall (1978), Heizer and Almquist (1971), Heizer and Whipple (1951), Holterman (1920), Hurtado (1988), Leonard (1928), and in particular reference to Shasta and Trinity counties, by Smith (1995).

Historic Background

Trinity County. One of the original twenty-seven California counties, Trinity County was established in 1850. The county derives its name from Trinidad Bay on the coast, discovered by Captain Bruno Heceta on Trinity Sunday, 1775. The county was first explored by Anglo-Americans in April, 1828, when the ubiquitous Jedediah Smith and his party trooped through the region on their way from the Sacramento Valley to Oregon (Hoover et al. 1958:378-382). In the early years the principal access to the interior of the county was via the Old Trinity Trail, created by trappers and gold seekers. The Trinity River was named by Major Pierson B. Reading, who mistakenly believed it flowed to Trinidad Bay. Major Reading discovered gold in July, 1848, on the Trinity River at a point now known as Reading's Bar, just below Douglas City (Hoover et al. 1958:378-382), a few miles southwest of the subject site.

The initial settlement of Trinity County was a direct result of the California Gold Rush (Cox 1858/1940). During 1850, hordes of gold seekers poured into the region, and by the end of 1851 the majority of gold bearing sections of the county had been explored and prospected (Andre 1915; Chase 1945; Clark 1979; Hicks 1992). Most of the early mining activity was concentrated at gravel bars along the creeks and rivers. Numerous camps were situated on the Trinity River near the mouth of Grass Valley Creek (Hoover et al. 1958:378-382). The Buckhorn-Grass Valley Creek Toll Road was constructed between 1857 and 1858. Its approximate alignment is followed by present-day State Route 299.

Weaverville, a center of early mining activity, was named for John Weaver, a prospector who arrived there in 1849. The town became the county seat in 1850 (Hoover et al. 1958:378-382). In 1852 Weaverville had a large Chinese community composed of miners and tradesmen. Chinese were responsible for many early-day mining efforts around Weaverville; their cultural influence is represented today at the Joss House State Historic Park in Weaverville. Throughout the 1850s mining was a major activity along the streams of the Weaver Basin, using gold pans, rockers, long toms, and ground sluices. During the 1860s lengthy ditches were constructed to supply water to mining operations. Hydraulic mining was introduced in the 1870s; the first use of a monitor was at Garden Gulch. Quartz hard rock mining became important in the 1880s, and a steam-powered dredge began operation on Weaver Creek in the 1890s (Jones 1981:55-57). Dredges left unsightly heaps of tailings in their wake. Fortunately, dredging operations ceased during World War II.

The community of Lewiston, east of the subject site, is one of the oldest settlements in Trinity County. In the 1850s it had a store, blacksmith shop, meat market, sawmill, numerous homes, and the first ferry for pack horses, permitting pedestrian and equestrian traffic to cross the Trinity River (Hoover et al. 1958:278-352). The construction of Trinity and Lewiston dams between 1956 and 1962 brought major changes to the community (Jones 1981:271), tourism becoming a major part of the economy.

Among the mines in the area around site -942 is the Union Hill Mine, located at the confluence of the Trinity River and Weaver Creek (Ritter 1991). At its peak in the early 1900s it was one of the largest hydraulic mines in the county. Mining operations began there in 1862 and continued intermittently until 1928. A large ditch was constructed to obtain water from Grass Valley Creek. Beginning at a point about one mile above the present Odd Fellows Camp, the ditch extended approximately 15 miles to the mine (Goodyear 1979; Jones 1981:293-295). Few remnants are visible today at this extensive site. The upper portion of the ditch, a "head box," and the ruins of a flume are located just outside Ellen Pickett State Forest (Betts 1995), recorded as CA-TRI-1374H (Derby and Goodner 1992; Goodyear 1979; Ritter 1991).

Although the initial settlement of Trinity County by Anglo-Americans was due to gold mining, the lumber and recreation industries are now the county's economic mainstays. The Trinity Forest Reserve was established in 1905 with offices in Weaverville. The Trinity-Shasta National Forest was consolidated in 1954 (Jones 1981:57, 80). More than 70 percent of the county is National Forest land.

History of the Southern Pacific Land Company. George Belden, who in 1983 was the Head Forester for Southern Pacific Land Company, kindly provided the following information (March 30, 2010, email to Dan Foster, CAL FIRE Senior Environmental Planner):

> The Company, in 1982, was Southern Pacific Land Company, a subsidiary of the Southern Pacific Company that included the Rail Road, Trucking lines, Communication (Sprint), Mineral division, Westland AG Lands and several others. Several years later the Southern Pacific merged with the Santa Fe Company. The Southern Pacific Land Company became the Santa Fe Pacific Timber Company, a separate entity and thus easier to sell. The first of the many valuable assets to be sold under the new SP/Santa Fe Company was the communications company. Sprint was an early outstanding leader in high tech communications, the next company was the Santa Fe Pacific Timber Company. An advertisement for bid was sent out to a dozen organizations. When the bids were opened, Sierra Pacific was the high bidder and acquired the "stock" of the company on February 1, 1988, thus they [acquired] not only...the lands, but the office buildings, vehicles, etc.

Robert Taylor, Company Forester for both Southern Pacific Land Company and Sierra Pacific Industries, also provided information relevant to the history of the area around CA-TRI-942 (March 30, 2010, email to Dan Foster, CAL FIRE Senior Environmental Planner):

> ...I performed a lot of the field work in preparation of filing the THP in this area while working for George Belden at Southern Pacific. I also recall the surroundings in the area of site-942, in the THP we called the unit Rehabilitation of Under Stocked Timberlands because the site was predominantly occupied by hardwoods (Oaks). The road alignment through the outer edge of site-942 followed as existing narrow 4X4 road at this location and wound its way through the oaks and eventually along the east side of . . . the Trinity River. I remember as a young boy in the late 1950's of a cabin at this confluence being occupied by a mountain man named "Montana". He may have used this 4X4 route seasonally. During road construction for this THP the 4X4 road was widened through the area of site-942 but previous excavation had also occurred. Another interesting point is after falling most of the oaks in this area for site preparation, Southern Pacific sold firewood permits to allow public access to an area that is generally closed to the public, [which] may explain the looting situation on the road cut and to the steatite outcrop.

3. RESEARCH DESIGN

As we have stated elsewhere in this report, a site (CA-TRI-1019) located approximately five miles from the subject site, was excavated by Nilsson (1990). In the course of her research Nilsson identified four site-specific research objectives. In view of the proximity of the two sites, and the comparable goals of their excavators during data recovery, it seems appropriate to apply the same research objectives and questions to both sites, with of course due acknowledgment to Nilsson for formulating the original objectives.

In reference to site CA-TRI-1019, Nilsson (1990:25) states: "Tri-1019 is a small, prehistoric midden consisting of flaked stone debitage, tools, and ground stone artifacts." This succinct summary applies to the subject site as well. Nilsson states that data obtained from site -1019 "will be used to evaluate the site's significance and research potential. The following questions are considered important for addressing these issues." The questions are presented below, renumbered for subsequent consideration, and slightly edited for pertinence to site -942.

I. Define Site Content and Function

1. What was the main focus of occupation at the site?
2. What activities occurred here, and which appear to be the most important?
3. What types of materials were employed in these activities?
4. Is there evidence for intrasite patterning of artifact assemblages in terms of distinct manufacturing, use, or processing areas, or is the distribution of artifacts/features unpatterned?
5. How does the artifact assemblage compare with other local site collections, and what can be discerned regarding site function from an analysis of the assemblage?
6. Are there any stylistic, morphological, technological, functional or typological differences between the artifact assemblage from the site and other local sites?
7. (Referring to the above), if so, what are they, and what can they be attributed to?
8. What technologies are expressed at the site?
9. How do these compare with previous identified regional technologies?
10. Are innovative means of artifact production evident?
11. Are there changes in technology used for implement manufacture or resource procurement/processing evident over time?
12. What is the depth of the cultural deposit?
13. Do relative frequencies of constituents change with the deposit?
14. If so, what do these changes represent?

II. Define the Site's Time Period of Occupation

1. Can chronometric and stratigraphic analyses provide chronological information pertaining to the archaeological deposit at the site?
2. What is the length of occupation at the site and how does it relate to other identified occupational sequences from neighboring sites?
3. Was site occupation continuous or discontinuous?

4. Does occupation extend into the ethnohistoric or historic period?
5. What time markers, correlated to local and regional sequences, are present at the site?
6. What is their range of variability?
7. Can these be refined or new time markers be established?
8. How do these compare to established regional types?

III. Define Subsistence/Settlement Patterns

Subsistence

1. What plant and animal foods comprised the diet of site occupants as defined by artifacts, features, faunal materials, and macrofloral remains?
2. Did any changes in subsistence practices occur over time at the site, and if so, what are they?
3. What influences affected these changes?
4. Is there a parallel change in tools used for food procurement and processing?

Settlement

1. What were the environmental factors that may have affected the location of the site?
2. How does the site correspond to local micro- and macro-environments?
3. How does the site relate diachronically and synchronically with the known site distribution in the region?
4. How does the site relate to regional demographic patterns?
5. Did the occupation of the site occur seasonally or year-round [or] was it sporadic or of some other duration?
6. What is the nature and function of site features such as hearths, artifact concentrations, or floors?
7. Is intrasite patterning of noted activities evident?
8. If so, where did task-specific activities occur and what was their nature?

IV. Assess the Relationship of Site's Assemblage with the Shasta Complex

1. Does the site represent a Shasta Complex site?
2. If so, what diagnostic attributes are present?
3. Do mano/metate technology and Whiskeytown Side-notched projectile points occur in the deposit?
4. If so, what is their association and in what relative frequency do they occur?
5. How do the site's constituents relate to Farber's [1985] analysis of upland Shasta Complex site?
6. What attributes are present that support the observed pattern?

Relevant Regional Archaeological Sites

There are several archaeological sites in the project region that have been excavated and appear particularly relevant to the subject site. These are CA-SHA-475 (Squaw Creek), CA-TRI-1019 (Reading Creek East), CA-TRI-1008 (Cox Bar), CA-TRI-177) (Big Bar), CA-TRI-205 (Helena), and the Pilot Ridge sites. These are reviewed briefly below and comparisons are drawn among them and -942, with particular reference to use of regional obsidian sources.

Site CA-SHA-475, Squaw Creek (Clewlett 1974, 1977; Clewlett and Sundahl 1983; Sundahl 1993b): An important site, considered by many to be one of the most important in Northern California, CA-SHA-475 has been under investigation since 1970 (Sundahl 1992b), revealing a lengthy chronological sequence that may extend over more than 8000 years. The deepest deposit contains projectile points comparable to those found at Borax Lake (Raven 1984:449). Huberland and Dwyer (2001) summarize investigations at the site as follows:

> Extensive archaeological excavations at CA-SHA-475 established four site components. The earliest, between 8,000 and 5,000 BP, were marked by the presence of Borax Lake wide-stemmed projectile points, thought to be spear or atlatl points, and stratigraphically associated with unshaped manos and milling stones. Between 5,000 and 3,000 BP, Squaw Creek contracting stem points, Mckee Uniface points, and manos, millingstones, cobble spalls, and other lithic tools characterize the prehistoric assemblage. CA-SHA-475 was also occupied during later time periods. Between 3,000 and 1,000 BP, occupations were marked by Clikapudi notched points, manos, milling stones, cobble spalls, and large concentrations of fire-cracked rock. The most recent site component, dating to approximately 1,000 BP, was associated with Gunther-barbed and other small, notched projectile points, manos, milling stones, and hopper mortar pestles.

Sundahl (1992b:18) states that the site produced evidence of three components:

Component I	(5600 - 3000 BC)
Component II	(3000 BC to AD 500)
Component III	(AD 500 - 1850)

Component I features Borax Lake wide-stemmed and large expanding stem points, and manos and milllingstones. Component II has large contracting stem points, leaf shaped Excelsior points, McKee Uniface points, broad tipped drills or gravers, and large shaped manos and millngstones. Diagnostic traits of Component III include Gunther Barbed and Cottonwood Triangular points, large and small side-notched and corner-notched points, pointed drills, manos, pestles, and millingstones.

Site CA-TRI-1019, Reading Creek East (Nilsson 1990). This archaeological site, characterized as a temporary habitation site, is located on Reading Creek approximately five miles southwest of site -942. It was subject to the most intensive level of data recovery undertaken within this part of the Wintu territory. Excavations revealed a habitation site utilized during the Shasta Complex period (Gromacki and Hawkins 1972; Nilsson et al. 1991). The site yielded an inventory of flaked and ground stone artifacts, bone artifacts, and unmodified faunal remains (Nilsson 1990). Thirty-four projectile points were found, 31 (91.1%) of which are assigned to the Gunther series (Nilsson 1990:74, Table 4-9). Two radiometric assays date the site at ca. AD 1270-1670. Temporally sensitive artifacts also associate the site with the Shasta Aspect of the Augustine Pattern (Fredrickson 1974).

Nilsson (1990) reports source data for obsidian samples from site -1019. Fifteen specimens submitted for x-ray fluorescence (XRF) analysis were sourced by Hughes (1990:F1-4). Nine of the 15 are assigned to the Grasshopper Flat/Lost Iron Well/Red Switchback (GF/LIW/RS) source in the Medicine Lake Highland; six to a Tuscan source, (possibly Backbone Ridge northeast of Redding). Nilsson (1990:92) states, "Of the 25 typeable Gunther series projectile points examined, only two (8%) were assigned to the GF [LIW/RS] source; the remaining 23 (92%) visually correlated to Tuscan obsidian." Data presented by Nilsson (1990:92, Table 4-17) indicates that of 40 specimens sourced, both visually and by XRF, 18 pieces of debitage (45%) and 22 artifacts (55%) are assigned to the GF/LIW/RS geochemical source.

Analyses of the -1019 obsidian debitage suggest that although most of it is from the GF/LIW/RS source, the Gunther series projectile points found at the site are made of Tuscan obsidian. Perhaps those points were made elsewhere, expended by the occupants of the site, and replaced with points made from GF/LIW/RS obsidian--assuming of course that when possible arrows were salvaged from successful kills, a procedure which, in the light of a statement by one of Du Bois' informants (that it took six months to make 20 arrows), would have been an efficient practice.

The conclusion one might draw from the data presented above is that at -1019 obsidian debitage occurred in a ratio of approximately sixty-forty between GF/LIW/RS and Tuscan obsidian, the former variety being in the majority and probably preferred. Tuscan obsidian could have been obtained from two sources near Redding: Oat Creek and Cow Creek, both tributaries of the Sacramento River. Hughes (1986:305) states that the Tuscan chemical group occurs in several locations, but among them Cow Creek presented "no clear evidence for prehistoric use of this material," and Oat Creek had "limited evidence for prehistoric reduction of . . . nodules into flake tools" (Hughes 1986:306). This observation is rather surprising in view of the proximity of these two sources to Shasta Complex sites along the Sacramento River studied by Sundahl (1982). The Backbone Ridge Tuscan chemical group locality, on the other hand, according to Hughes (1986:306) offers "ample evidence for prehistoric utilization of . . . nodules (some weighing up to seven pounds!) was apparent especially near the Seaman Gulch collection locality."

The Backbone Ridge source lies between Little Cow Creek and the Pit River, approximately 15 miles northeast of Redding, whereas the GF/LIW/RS sources are more than 55 miles northeast of Redding in the Medicine Lake Highland. Thus, it would appear from the debitage ratios that the occupants of -1019 may have preferred GF/LIW/RS obsidian, even though its source is three times farther afield from -1019 than the Tuscan sources mentioned by Hughes (1986), and Hamusek-McGann (1993).

Site CA-TRI-1008, Cox Bar (Sundahl and Berrien 1986; Sundahl and Henn 1993:73-90). Excavations at the Cox Bar site yielded a Borax Lake Pattern lithic assemblage. The Borax Lake Pattern was defined by Meighan (1955:26-27) as represented by fluted and wide-stemmed projectile points, crescentic objects, coarse blades made on single flakes, and milling stones. This complex was later regarded as part of the Borax Lake Pattern (Fredrickson 1974), dating 8,000 to 5000 years BP, and a further subdivision, the Borax Lake Aspect, has been identified in Lake County. Borax Lake Pattern sites near -942 include CA-SHA-475 (Sundahl and Henn 1993:73-90) and -1008. Pertinent to consideration of obsidian distribution at sites such as -1008 along the Trinity River is the following information: "Nearly 98% of a sample of 82 obsidian artifacts and debitage was assigned to the GF/LIW/RS obsidian source with the balance being Tuscan obsidian" (Sundahl and Henn 1993:83).

Site CA-TRI-177 (Big Bar) (Sundahl and Berrien 1986). On the opposite (north) side of the Trinity River from the Cox Bar site is the Big Bar site, partially excavated by Sundahl and Berrien (1986). Obsidian data for -177 is provided by Eidsness (1985:191, Table 7). Of 118 projectile points, 83 are GF/LIW/RS (70%); the remainder, 35 (30%), are assigned to the Tuscan geochemical group (see Figure 12). Eidsness (1985:334-337; Appendix A), presents data derived from analysis of obsidian debitage and projectile points from -177, sourced both visually and by XRF. Of 131 specimens from -177, 86 (66%) are GF/LIW/RS obsidian, 45 (34%) Tuscan.

Site CA-TRI-205 (Helena) (Jensen and Farber 1982). This site is located near the community of Helena on the Trinity River between sites -1019 and -177. Obsidian data is reported by Eidsness (1985:191). Of a sample of 15 projectile points, nine (60%) are GF/LIW/RS, the remainder (six) (40%) are Tuscan obsidian (Figure 12). Hamusek-McGann (1993:142, Table 8) states that Jensen and Farber subsequently reported that of 81 obsidian specimens 62% are assigned to the GF/LIW/RS source, 11% to a Tuscan source, 22% to YJ source (Yellowjacket/Stoney Rhyolite Core), 2.5% to the BX (Borax Lake) source, and 2.5% to an unknown source.

Pilot Ridge Sites (Hildebrandt and Hayes (1993:107-120): Obsidian distribution at sites on Pilot Ridge, located west of site -942, was investigated by Hildebrandt and Hayes (1993:107-120), who tested or excavated 13 upland sites along the Pilot Ridge/South Fork Mountains ridge system in Trinity and Humboldt counties. The sites ranged in elevation from 4500-6000 ft (1370-1830 m). They state that 500 source-specific obsidian specimens were analyzed, the vast majority attributed to the Medicine Lake

Highland geochemical group.

It would appear that GF/LIW/RS obsidian was preferred by natives living or hunting in the mountains, while Tuscan obsidian was used to make the majority of Gunther series projectile points found at villages in the Upper Sacramento River Valley, such as CA-SHA-222 and -266 (Sundahl 1982). Apparently GF/LIW/RS obsidian was considered valuable. Treganza (1958) states that "obsidian chunks" [nodules] accompanied an inhumation (Burial 2) at CA-TRI-58 in the Trinity Reservoir area, consisting of two pounds of obsidian "chunks" ranging in size from two to five inches in diameter (at that time the geochemical sources of obsidian had not been identified by XRF). Treganza observed that many Gunther series points were made on very diminutive pieces of obsidian:

> Frequently a small thin percussion or pressure flake, even though it was naturally curved in its long dimension, was slightly modified into a projectile point. Such points could have been made in a matter of minutes and they also indicated resourcefulness in utilization of limited resources [Treganza 1958:15].

4. SITE CA-TRI-942

Prehistoric archaeological site CA-TRI-942 has several features that render it of more than passing interest, particularly in view of its location in Trinity County's mountainous terrain, where comparatively few archaeological excavations have been conducted. One of its more intriguing features is -- or rather was -- the presence at the site of an outcrop of steatite, on which, during prehistoric times, occupants of the site carved or incised several cupule petroglyph motifs. These were observed and recorded in 1983, but at the outset of the 1993 investigations it was found that a portion of the outcrop exhibiting the petroglyphs had been removed, evidently by someone using a chain saw. Fortunately, the motifs were sketched and photographed by Ritter and Foster in 1983 (Figure 2).

The site also suffered other forms of damage. Before 1983 it had been impacted and its subsurface anthropic deposits exposed by construction of a four-wheel drive road, which most unfortunately transgressed the southwest part of the site, destroying an estimated 20% of the anthropic deposit. Subsequently, further damage was inflicted by expansion of the narrow road to accommodate logging trucks, and by excavation of amorphously-shaped pits dug into the cutbank of the log haul road by persons unknown, in search of artifacts. The site is situated on private land owned by a logging company. At the time that the site was discovered there were no regulations in place that required pre-construction inspection of the proposed haul road, nor were there any requirements for cultural resources survey of proposed THP projects. Thus, parts of the site were damaged or destroyed. On a happier note, it was partly because of damage inflicted on this site that regulations were established that helped to prevent similar incidents in the future.

The timber harvest operations that led to discovery of and impact upon the site were completed in 1983 and conifer seedlings were planted throughout the harvest area. Thus, when the archaeological field party arrived at the site in 1993 a thriving stand of immature conifers and oak covered the site area (Figures 71, 78).

Data Recovery Procedures

It was not until 1993 that it became possible to launch a data recovery endeavor at site -942. During the preceding decade attempts were made to fund sampling and interpretation of the site's archaeological assemblage, but efforts came to naught. Finally, in 1993 funds (albeit limited) were obtained, Dr. Dillon was engaged as a field supervisor, a crew organized, and investigations undertaken. The need to assess the site's potential significance was spurred by the fact that relic collectors had gained unauthorized access to the site. Their activities were evidenced by the two large pits dug into the site from the cutbank of the logging haul road. Because the site was a threatened cultural resource, it was considered advisable to conduct test excavations to assess its potential to yield information of importance in prehistory.

Through the offices of Dan Foster, funds were obtained to undertake two data recovery operations, the first of which was to determine, from surface observation and excavation of test units, the areal extent of the site; the second was to ascertain its depth and at the same time obtain samples of its contents, again, to determine whether it might be eligible for either or both the California Register of Historical Resources (CRHR) or the National Register of Historic Places (NRHP). One of the contributors to this report (Dr. Brian Dillon) was available to organize and supervise a field party to conduct the proposed investigations and, during late June and early July 1993, with permission and indeed encouragement from the landowner, a party of volunteers led by Dr. Dillon began work at the site.

The field party's first endeavor was to establish a datum point which served as a common reference for subsequent placement of excavation units and as a bench mark during site mapping. These procedures are of course routine, as described in the literature of the period (Hester et al. 1975). Four one-by-two-meter-square units and one profile display cutting sampled the subsurface anthropic deposits and helped to establish the areal extent of the site. Units 1 and 5 were the first excavated, while a two-person team mapped the site using a transit. Several artifacts were observed on the surface of the haul road. These specimens, identified by placement of pin flags, were numbered and individually collected (Figure 2).

A distinctive feature of the site at its northeastern edge, a series of cupule petroglyphs carved in a steatite outcrop, had been observed previously and recorded. The outcrop was inspected, only to find that persons unknown had removed most of the petroglyphs--only five of 10 original cupules remained. Nothing could be done, of course, to remedy this desecration (Figure 83). Adjacent to the original petroglyphs were two sets of initials apparently carved many years ago. One set of initials is accompanied by an incised date, "1906" (Figure 88). The occurrence of a steatite outcrop at this site was a feature that might have made it attractive to native visitors, coupled with the fact that two springs rise near the site (Figure 2). The region in which the site is situated also contains outcrops or deposits of chert, an important toolstone found in the Coast Ranges (Page 1966:255-276).

Excavations continued until four one-by-two-meter-square units had been completed, varying in depth from 90 to 140 cm, terminating at the underlying culturally sterile strata. The profiles of each unit were recorded by scaled drawings and photographs, the units were backfilled, and the site surface restored to its approximate original appearance.

Field catalogs of surface collections obtained during 1983 and 1993 and the excavation unit specimen catalogs were not among the documents that accompanied the collections transmitted to the California State University, Stanislaus, Archaeological Laboratory. Therefore, replacement catalogs were compiled by the CSUS Laboratory Technicians supervised by Elizabeth Greathouse (Appendix A).

Results of Data Recovery Operations

Surface Collections

As noted above, even cursory inspection in 1983 and 1993 of the surface of the log haul road and its adjoining backslope revealed the presence of artifacts and debitage unearthed when the road was widened and improved by crawler tractor. The field party inspected the road surface walking in line abreast, using pin flags to mark 60 specimens, each of which was plotted, numbered, and individually placed in plastic bags. In all, 46 artifacts were found on the roadbed and site surface, including 15 projectile points (Figure 14), two cores (Figure 61, S-43; Figure 62, S-37), two bifaces, three drills, five utilized flakes, one chopper (Figure 59, S-11), 29 pieces of debitage, three handstones, three hammerstones, and 12 milling implement fragments. All projectile points from the site surface and roadbed can be attributed to known types (e.g., Gunther series), with the exception of one non-diagnostic projectile point midsection. All specimens save one are made of obsidian (Figure 47, #65).

Excavation Units

Site CA-TRI-942 was sampled by excavation of four one-by-two-meter-square units and one profile display cutting. These were excavated in ten centimeter increments conforming to the contours of the site. Of the five entries, Unit 1 sampled the deepest anthropic deposit (L-14, 140 cm), and produced the most debitage and animal bone, and yielded the greatest number of artifacts (23 projectile points) and 1,058 pieces of debitage. As may be seen by consulting the unit profiles (Figures 3 to 7) the units sampled anthropically- affected soil from the surface to a maximum depth of 140 cm (Figure 8). Units 1 and 4 were positioned near the southern edge of the site, on the verge of the haul road cutbank.

As the reader will observe by referring to the unit profiles (Figures 3-7), tree roots were ubiquitous throughout the subsurface strata. No materials suitable for radiometric assay were obtained, other than mammal bone, which of course could be dated by accelerator mass spectrometry (AMS), were funds to do so available. In the course of events no obsidian from the site was submitted for either XRF or hydration assay, but the obsidian has been provisionally sourced macroscopically (Figures 52-54).

The four excavation units at -942 enclose an elongated diamond-shaped area, its long axis oriented east/west (Unit 2 to Unit 5) (Figure 2). The area encompassed by the four units subsumes approximately 20,800 square meters. The units sample an area of nine square meters. Thus, it is evident that the sample obtained from the site is of modest size, but it was considered essential to minimize impact and preserve what remains of the site. As stated, the principal objective of data recovery was to test the site for content, area, and depth, and that goal was achieved. None of the four units were culturally sterile, so it is possible that the site extends beyond the limits of the diamond-shaped area defined by the four units. For example, the anthropic deposits could extend to the west, since several specimens were found in the roadbed and backslope west of Unit 5 (1993 Surface Specimens 942 S-39, S-40, S-41, S-42, S-43)--that is, assuming that these specimens were not unearthed elsewhere along the roadcut and redeposited during its construction and subsequent improvement. Unit 5, the westernmost unit, yielded six projectile points and 227 pieces of debitage. The site may extend farther north as well, since Unit 3, the northernmost unit, produced ten projectile points and 463 flakes, suggesting that the anthropic deposit may extend beyond the area sampled by this unit. Moreover, the steatite outcrop, considered to be part of the site, is 72 meters northeast of Unit 2; anthropic deposits may be present in the intervening area as well, although the outcrop is on a steep hillside that rises from the main part of the site. In any case, an inventory of the archaeological assemblage was obtained and the site depth ascertained with, we believe, a less than significant impact upon its resources.

Stratigraphy and Interpretations

The stratigraphy of site CA-TRI-942 was revealed during excavation of the four test units and profile display cutting. The north profile of each unit and the cutting was recorded in the field by photographs and scale drawings; the latter were subsequently refined for publication by AutoCAD (Figures 3-7). In general, the stratigraphy consists primarily of two types of soil: anthropically-affected soil ("midden"), and red or red-orange-colored altered clay, common to the general area surrounding the site. As depicted in the profile drawings, some units contained lenses of red-orange clay. We note that LaPena (1978:339) states, "Red earth was sometimes collected and soaked in water and then added to the [acorn] meal. It made the batter stiffer and no leaching of the meal was necessary. The bread came out dark in color, which was a measure of its palatability." Thus, red earth for the site, which added iron to the diet, might have been used during meal preparation, although no specific evidence attesting this practice was unearthed. Some units contained pieces of steatite derived from the nearby outcrop (Figure 55). Munsell color readings were not obtained in the field, but were made in the CSUS laboratory using small samples of sediment retained during excavation.

One regrettable lacunae in data recovery is the absence of "whole samples" usually obtained from each level of an excavation unit. Were such samples available, it would have been possible to inspect them for evidence of exotic pollen (see West [1993:219-236]), diminutive bones, phytoliths and otoliths, and other items that might have been present, even if fish remains had been pulverized, as alluded to elsewhere in this report. If whole samples were obtained they were not available for subsequent study.

<u>Unit 1</u>: A one-by-two-meter-square unit, excavated to a depth of 140 cm, this unit (and adjacent Unit 4) sampled the southernmost part of the site, just above the prism and backslope of the log haul road (Figure 77-80; 91). This unit was the most productive of the four, yielding 34 artifacts, 23 of which are projectile points or fragments thereof, one shaft smoother, six utilized obsidian flakes, two milling implement fragments, 1,058 pieces of debitage, numerous fragments of thermally-altered rock, and 617 fragments of bone. All specimens were found between the surface and L-14 (140 cm) (Table 4).

<u>Unit 2</u>: This unit (1 x 2 m^2) also sampled the comparatively rich anthropic deposit and yielded nine artifacts (three projectile points and fragments of points, one core, two utilized flakes, one hammerstone, two milling implement base fragments), 216 flakes, and 11 pieces of bone; all specimens were found between the surface and L-10 (100 cm) (Table 4).

<u>Unit 3</u>: This unit (1 x 2 m^2) (Figure 79) yielded 17 artifacts, including 10 projectile points, one utilized flake, two milling implement fragments, three pestles or fragments, one problematical pendant (942, #51), 463 flakes, and 215 pieces of bone. All specimens were found between the surface and L-11 (110 cm) (Table 4).

<u>Unit 4</u>: Designated as a unit, this excavation, nominally 50 cm by 100 cm by 120 cm deep, is a profile display cutting, undertaken to demonstrate stratigraphy exposed along the cutbank of the haul road (Figure 75, 82). Profile exposures in cross-section often are narrow at the surface and wider toward the base, so more of the anthropic deposit is sampled at depth. Unit 4 yielded four artifacts of known provenience (two projectile points, one utilized flake, one handstone), 672 pieces of debitage and 595 fragments of bone, all found between the surface and a maximum depth of 120 cm. Unit 4 also yielded six specimens of unknown provenience--an additional four projectile points, one utilized flake, and one pestle fragment (Table 4).

<u>Unit 5</u>: Excavated to L-9 (90 cm), Unit 5 (1 x 2 m^2) (Figure 81) yielded 13 artifacts (six projectile points or fragments, one drill, one utilized flake, one chopper, one handstone, one hammerstone, one milling implement fragment, one pestle fragment), 227 pieces of debitage, and 37 pieces of bone (Table 4).

Variable Sampling Procedures. At this point, in reference to Unit 4, it is necessary to explain that different recovery procedures were used to process the midden from this unit, as opposed to those employed in respect to all other units. Soil from all four units was processed using 1/4-inch (6.35 mm) mesh sieves). However, the method of processing soil from Unit 4 was different: the "screened midden" from each level of this unit was retained and decanted by level into a capture screen (one-sixteenth-inch; 1.58 mm-mesh), washed by hydrosieve (Figure 92), air-dried, and bagged.

Each bag of screened midden was subsequently examined in the CSUS Archaeological Laboratory. The screened midden from Unit 4 in toto contained 672 small flakes ("microdebitage") representing both pressure and percussion-flaked end-stage reduction. Of these flakes 509 are obsidian, 461 of which are visually attributed to the GF/LIW/RS geochemical source, 48 to a Tuscan source (Figure 13). Of the remaining pieces of microdebitage, 75 flakes are chert, 57 basalt, and 31 quartzite. The screened midden also contained 595 fragments of animal bone (discussed below), found amid the background of pea-gravel and other pebbles captured on the one-sixteenth-inch-mesh screen. Units 1 to 5 yielded 2,636 pieces of debitage. Microdebitage from Unit 4 represents 25 percent of the total debitage (Figure 10). The efficacy of using fine screens and hydrosieves to recover diminutive archaeological specimens is discussed by Aaberg (1989:34-47), Frison (1996), and Hall and Larson (2004), among others. A secondary but perhaps more important aspect of recovering microdebitage from the site is the fact that its presence demonstrates that stone tools, certainly projectile points, were made, modified and/or maintained at this site.

Artifact and Specimen Descriptions and Interpretations

Flaked Stone (Projectile Points)

In this section we describe and provisionally classify projectile points from site -942, retrieved both from the surface of the haul road and the excavation units. Of the 59 points and fragments found at -942, 35 are sufficiently intact to permit typological assignment; of these 27 are illustrated by pen and ink drawings (Figures 16-19, 21-23, 25-39, 41-45), produced by J. D. Backes. Other projectile points are shown in photographs (Figures 46-49). Most of the temporally diagnostic projectile points were identified in the field by Dillon, and subsequently examined in the CSUS laboratory, and classified by referring to data published by Justice (2002), Hildebrandt and Darcangelo (2008), Hildebrandt and Hayes (1993:107-119), Sundahl (1982), Nilsson (1990) and others.

Specimens from this site invite comparison to other sites in the region, even some relatively distant. For example, sites in Yana territory, excavated by Baumhoff (1955, 1957) and others, produced a variety of projectile points, many resembling those from site -942. Counterparts of projectile points from -942 appear among specimens from the Cottonwood area (Johnson and Theodoratus 1984). Both the "Yana territory projectile point series" and the "Cottonwood series" reflect data obtained from sites well to the southeast of -942, so it must be acknowledged that direct comparisons are at best tenuous. Still, projectile points from Northern California form distinctive congeries (Justice 2002), and are an integral part of regional technological adaptations. Other sites that have produced comparable projectile points (e.g. Gunther barbed) include Gunther Island (aka Indian Island) (Loud 1918) and Nightfire Island (Hughes 1986; Sampson 1985; Treganza 1958:14). Hughes (1986:90-95) presents an excellent discussion of Gunther series projectile points, as do Hildebrandt and Darcangelo (2008) and Justice (2002:410-420).

Most of the projectile points from -942 are readily accommodated in the Gunther series, as identified by Nilsson (1990:71-81). She assigned 31 projectile points from -1019 to the Gunther series, within which she discerned four subtypes based on variations in stem form and shoulder angle. Nilsson (1990:74) states, "These divisions are purely descriptive and do not reflect cultural-temporal variability within the series." The Gunther series includes four subtypes: Gunther Expanding Stem, Straight Stem, Contracting Stem, and "unspecified." The attributes of these categories are fairly evident; the only ambiguity is the "unspecified" category. Six projectile points from -1019 are relegated to that category, due to the fact that "stems are absent on all specimens" (Nilsson 1990:78). The tabulated results of her projectile point classifications are shown in Table 1.

Table 1. Projectile Points from Site CA-TRI-1019 and CA-TRI-942
(Gunther Series)

	TRI-1019 (31)	TRI-942 (24)
Gunther Expanding Stem	6	3
Gunther Straight Stem	10	2
Gunther Contracting Stem	9	18
Gunther Unspecified	6	1

Projectile points of known stratigraphic provenience from -942 are illustrated, arranged by unit and stratigraphic level (Figure 15). Specimens generally identified as Gunther Contracting Stem projectile points occur throughout the one-meter-thick anthropic deposits in all units at -942, and occur in Unit 1, Level 10, at a depth of 100 cm (Figure 15, U-1, L-10, #34). A projectile point credited to the Wintu that appears to be a Gunther series point is figured by Du Bois (1935) (Appendix B, this report), but Du Bois does not state whether it is an example of a projectile point recently used by the Wintu, or was retrieved from an archaeological context. As might be expected, side-notched points occur in -942 L-1. Specimens provisionally identified as Trinity Diamond Shaped projectile points are found in Level 4 with a Gunther Contracting Stem point. It may well be that the differences in projectile point types is functional, rather than temporal, as Hildebrandt and others have suggested.

Flaked Stone (Other Artifacts)

Utilized Flakes. The lithic assemblage from site -942 included 16 utilized flakes. Specimen 942 #13 is a utilized obsidian flake, displaying retouch or use-wear visible under conventional microscopy (Figure 46). It would have been most advantageously manipulated when held by the fingers of the right hand.

Drills/perforators/gravers. Five specimens from -942 are identified as drills, perforators, or gravers, the former term perhaps more appropriate in view of how they were probably employed (Figure 20, #9; Figure 46, S-5-Extra). Their presence implies that the occupants of the site worked with hides, or perhaps wood or bone. Huberland and Dwyer (2001) note the presence of drills or gravers at CA-SHA-475.

Pendants. One specimen (Figure 40, #51) was identified in the field as a possible pendant, and indeed it may be, although laboratory inspection by microscope indicates that the perforation through its body may be fortuitous. However, we note that Du Bois (1935:82) states, "Other flat ovate stones, two or three inches long and pierced at one end for suspension, were identified as luck charms. Particular usages for them seem to have been the same as those accorded to other *xoxi* [charms]. Were believed to ward off illness."

Other. Two artifacts were found which, while not unique specimens, are not easily accommodated in the categories listed here. One of these, interpreted as a shaft smoother, is made of vesicular igneous rock (Figure 24, #35); the other, a problematical pendant, is discussed above.

Flaked Stone (Debitage)

The debitage assemblage includes several varieties of toolstone: obsidian, chert, metavolcanic chert, basalt, and quartzite (Table 5; Figures 9, 10). Excavation of four one by two meter square units, the profile display cutting, and the roadbed surface yielded 2,665 pieces of debitage, 2,255 (85%) of which is obsidian. Of the 2,255, 1,564 (73%) are assigned, albeit visually, to the GF/LIW/RS geochemical source, and 601 (27%) to the Tuscan geochemical group.

Referring only to the microdebitage recovered from the Unit 4 screened midden, 672 flakes were found, of which 509 (76%) are obsidian. Of these 461 (90%) are visually attributed to the GF/LIW/RS geochemical source, 48 (10%) to a Tuscan source. The presence of GF/LIW/RS obsidian, despite the fact that its source is 55 miles northeast of -942, is unremarkable: it is found at sites throughout the Trinity River region, as noted elsewhere in this report. Of interest is the fact that many of the projectile points and all pieces of debitage are extremely small, the largest pieces of debitage attributed to the GF/LIW/RS geochemical source are less than four centimeters in length; obsidian debitage attributed to a Tuscan source is less than three centimeters long. Obviously, obsidian was valued and evidently highly "curated," *sensu* Binford; no discarded "chunks" or large waste flakes exhibiting cortex were observed at site -942. Rather surprising, on the other hand, is the lack of Franciscan chert. Du Bois (1933) and others were told by their informants that the Wintu made use of chert as a toolstone, and chert is found in the mountain region of Trinity County. We do not have at hand information as to its abundance locally. A single projectile point or biface distal fragment is identified as probably Franciscan chert (Figure 47, #65).

The total yield of obsidian debitage from site -942 consists of 2,255 flakes (see Tables 4 and 5). In order to determine whether the obsidian debitage exhibits cortex, or consists primarily of tertiary (interior) flakes, the assemblage was inspected at the CSUS laboratory. This information was desired to ascertain whether obsidian, presumably obtained from distant sources, might have been transported in the form of quarry blanks, preforms, and/or bifaces, or simply as large, relatively expendable nodules ("chunks") or primary flakes. Reduction stage analysis revealed that GF/LIW/RS consists of the following: 1% cortex, 4% secondary, and 95% interior; obsidian from the Tuscan geochemical group consists of 4% cortex, 10% secondary and 86% interior.

It is axiomatic (but not necessarily valid in all instances) that an abundance of flakes exhibiting cortex indicates use of local sources, whereas debitage consisting primarily of diminutive interior (tertiary) flakes may indicate that the toolstone was imported from distant sources. The morphology and composition of obsidian debitage from -942 suggests that it was not locally obtained. The cores and large flakes of metavolcanic rock found during excavation are, on the other hand, likely derived from local sources; nodules may have been obtained from the assortment of country rock present at the site, derived from the Weaverville Formation (Irwin 2009; Phillips 1989; Strand 1967).

Hughes (1986:284, Map 8) depicts the Grasshopper Flat/Lost Iron Well/Red Switchback (GF/LIW/RS) locations near Medicine Lake, not far from the California-Oregon border. Hughes (1986:300-301) describes obsidian from the Grasshopper Flat source as "milky gray and banded"; the Lost Iron Well obsidian as "grey and black some with streaks and broad bands;" and Red Switchback obsidian as "red and black," occurring in a small locality that in his view lacked clear evidence of prehistoric use.

Among the nearest known sources of Tuscan obsidian in the region surrounding site -942 is the Backbone Ridge Tuscan geochemical group (Hughes 1986:305-306, Code

993). This source is southeast of Shasta Lake (near site CA-SHA-475), a distance of approximately 30 miles (48 km) from site -942 (Hughes 1982, 1986:283, Map 7). Hamusek-McGann (1993:117 ff.) presents an illuminating discussion of the flaking qualities of Tuscan versus Glass Mountain/Grasshopper Flat obsidian. She states:

> Obsidian source data compiled over the last several years for the Redding Wintu and Yana territory suggests that a much larger percentage of the obsidian used actually came from local Tuscan sources. This fact has resulted in a quandary for some researchers since it has been assumed that the Tuscan obsidian is inferior in quality to the Medicine Lake glasses. . .
>
> The fact that some lithic resources are much better suited to knapping than others is not being disputed. However, given the preponderance of Tuscan obsidian glass over the Medicine Lake Highlands obsidian in many archaeological site assemblages, the supposedly inferior quality of Tuscan obsidian bears further investigation.

Hamusek-McGann employed six different attributes that in her view reveal that Tuscan obsidian was not inferior to the Medicine Lake Highlands obsidian:

> Oat/Swede Creek Dry Creek, Cow Creek Tributary, Woodman Hill, Forest Camp, Sugar Pine Ridge, Phillips Road, Paradise Ridge 1, as well as the Backbone Ridge source localities (BR1 - BR4) are all excellent raw materials.
>
> Bifaces measuring 6.5 cm in length were easily produced from cobbles obtained at Backbone Ridge locales, suggesting that at most of the source locales mentioned above, the size of the nodule would not have been a major limiting factor in terms of lithic reduction. . .

Hamusek-McGann (1993:199) suggests the following:

> The results of this analysis lend support to the view that as the northern Sacramento Valley and surrounding areas became more heavily populated during the late prehistoric period, the mobility of the aboriginal inhabitants became more restricted. Local population increases of indigenous people as well as displacement of indigenous groups of immigrants such as the Wintu restricted the freedom to easily move from one area to another. This increase in population most likely resulted in competition and conflicts for available land and resources, thus possibly necessitating the use of more locally available toolstone for the inhabitants.

Hamusek-McGann's research certainly represents the standard work of reference on the subject of Tuscan obsidian. Indeed, few alternative views have been offered (McGuire 2007:165-176). Her conclusion that increased population restricted access to resources is plausible, and yet one might ponder whether trade might not have increased as populations expanded and, concomitantly, varieties of obsidian became more widely distributed. In any case, for some reason or reasons yet to be fathomed, there is a great deal of GF/LIW/RS obsidian in the mountain country west of the Sacramento River and at some sites it, rather than Tuscan, predominates. There might indeed be a Malthusian explanation for this, which may become more evident as regional obsidian analyses and other vital studies are undertaken.[1]

However, the vast majority of obsidian debitage from -942 is apparently from the Medicine Lake Highland near the California-Oregon border, where a series of sources are collectively known as the Grasshopper Flat/Lost Iron Well/Red Switchback (GF/LIW/RS) geochemical group. The similarity of trace elements in obsidian from these sources led Hughes to regard them as a single geochemical group. Obsidian from the GF/LIW/RS source is chemically, macroscopically, and morphologically distinctly different from Tuscan obsidian. "Morphologically" refers to the texture of the surface of the two varieties--GF/LIW/RS obsidian is smooth to the touch and shiny; Tuscan is rough and grainy.

We freely acknowledge the potential pitfalls of relying on visual ("macroscopic") sourcing of obsidian, because such identifications are in effect subjective, and may lead one astray, perhaps with unfortunate consequences, because visual identification depends on the experience and perception of individual technicians as they attempt to discriminate among various similar sources. We have "sourced" the obsidian from site -942 and believe that it comes from either the GF/LIW/RS or a Tuscan source. While we are comfortable with this conclusion, we certainly would advocate trace element identification by XRF or other means, rather than giving too much credence to visual sourcing. The impressions gained by study of the obsidian debitage from -942 are:

1. The vast majority of obsidian from -942 came from the GF/LIW/RS geochemical source (Figure 11).

2. Obsidian was conserved most assiduously: even tiny fragments exhibit retouch and/or edge wear. Only a single large obsidian flake, interpreted as an arrow-shaft trimmer, functioning as a spoke-shave or similar tool, was found (Figure 46, #13).

3. Tiny spalls of obsidian were fashioned into projectile points and evidently were used as such, despite the fact that some examples are longitudinally asymmetrical, exhibiting marked ventral curvature from proximal to distal ends (see Andrefsky [1998:107-108]).

4. The majority of the projectile points attributed to the Gunther series from site -942 are made of GF/LIW/RS obsidian.

Chert. One-hundred and eighty two chert flakes were found at -942 (13% secondary, 87% interior). These were inspected to determine if any are "Franciscan chert," a distinctive toolstone widely distributed throughout the Coast Ranges (Napton and Greathouse 2001; Page 1966:255-276). Generally, Franciscan chert is fine-grained, smooth, lustrous, and varies in color; green, red and white varieties are common. However, Franciscan chert is apparently not represented in the debitage samples from -942; the distal fragment of a biface or projectile point is visually identified by color and luster as possibly Franciscan chert (Figure 47, #65).

The debitage assemblage from -942 includes several large flakes--huge, when compared to obsidian flakes from -942. These massive flakes, made of metamorphosed chert (cf. metavolcanic chert), were struck from large cores, one of which is illustrated (Figure 60, #77). Trimmed by removing flakes around its circumference, it is an example of unidirectional cores discussed by Andrefsky (1998:138). The metavolcanic flakes display robust, unprepared striking platforms. Most were not modified after detachment--probably they are rejects. Few exhibit evidence of secondary flaking. One specimen, however, displays retouch along its distal end and probably was utilized, or was intended to be utilized, as a scraper (Figure 66, #38). There are two cores of this material (Figure 62, S-37; Figure 60, #77), and one core/chopper (Figure 56, #88), as well as several very large flakes of the same material, detached from cores by direct percussion.

The coarse flakes of metavolcanic chert obviously are produced by freehand percussion: the core material is intractable and considerable impact energy would have been required to detach useful flakes. Based on examination of the morphology of cortical surfaces, most of these large chert flakes appear to have been struck from smooth spherical cobbles similar to those observed in the anthropic deposit at -942 (Figure 78), and evidently part of the "country rock" so plentiful at the site. The possibility that some of these cobbles came from ancient Trinity River lag deposits cannot be denied, despite the fact that site is 4,000 ft (1,219 m) away from the river and some 918 ft (280 m) above its present channel. However, as noted, the geological source of these "country rocks" is in all probability the Weaverville Formation.

Basalt. There are 120 basalt flakes in the lithic assemblage from -942 (3% cortex, 34% secondary, 63% interior), but no cores of this toolstone are present in the collections. This widely used toolstone is generally available throughout most of the Southern Cascades and Trinity Mountains. There have been some efforts to study the sources and distribution of basalt in parts of the Sierra Nevada (Day 2002:39-42). The presence of basalt toolstone at site -942 is unremarkable, save for the apparent absence of cores of this material.

Quartzite. The -942 lithic assemblage contains 108 quartzite flakes (4% cortex, 24% secondary, 72% interior); most are angular fragments of doubtful value as toolstone. They may merely be part of the background of country rock present throughout the site. None bear any indication of having been secondarily modified.

Ground Stone

Excavation at site -942 disclosed a great abundance of smooth, ovoid or semi-spherical stones, the vast majority interpreted as "country rock." They were not counted, weighed or otherwise tabulated by unit or level. These numerous rocks pose a problem from the point of view of their possible cultural use (if any); that is, as implements or as potential toolstone. Many display very smooth exteriors, resembling water transported sand-abraded river cobbles; however, as we have seen, the Trinity River is distant from and well below the site, so it is doubtful that all of the smooth stones came from the present river channel; they likely derive from ancient fluvial deposits of the Weaverville Formation. There is little doubt that the majority are not "manuports" in the sense that they were brought to the site for some purpose. Some examples exhibiting abraded or flattened surfaces might have been used, however casually, to process foods or for some other purpose. Huberland and Dwyer (2001) note the presence of "unshaped manos" at CA-SHA-475, but those specimens were found in much older contexts than those represented at site -942.

We were at pains not to classify all of the cobbles collected by the field party as "milling implements," because intensive inspection revealed that many exhibit no obvious evidence of use, and we heed Johnson's admonition that California archaeologists frequently confound country rocks and milling implements (Johnson 1984, 1993:335-350). At many sites in our experience rocks of suitable size, shape, and weight displaying abraded facets or surfaces are conspicuous among a background mass of angular fire-cracked (thermally altered) rock, and/or country rock, and in some instances shaped manos and pestles may be the *only* ground stone implements found in the entire cultural deposit. Also, at -177, located on the edge of the Trinity River, Sundahl (1988:78, Figure 23b) reports the presence of singular stones that display one or more abraded surfaces. Consequently, a great many rocks from -942 required careful examination to discern evidence of use. Many were assessed as apparently lacking signs of use, while others presented indications, albeit slight, of use as handstones, pestles, and/ or hammerstones. Such assessments were made by persons with a great deal of experience in California archaeology, but some specimens from the site defied facile classification--they may or may not have been used for some purpose. Ground stone artifacts are listed (Table 3) and illustrated (Figures 57, 58, 63-65).

Steatite. All four excavation units and the profile display cutting contained fragments of steatite. These apparently represent natural breakage derived from the steatite outcrop on the site, but some pieces might have been brought from the Feature One outcrop to the open, well-insolated south-facing edge of the site, where, presumably, pieces were detached to make ornaments, pipes, or perhaps vessels, although ethnographers do not credit the Wintu with manufacture of the latter (Du Bois 1935; LaPena 1978). However, two factors must be considered, one of which is that the steatite fragments found in the units are not smooth or solid, as would be desired for modification, but instead are "vesicular" in appearance, exhibiting a mass of small apertures (vugs), presenting a very porous structure not particularly amenable to modification (Figure 55). However, the smooth faces at the Feature One outcrop created by modern sawing reveal that internally, the stone is solid and extremely fine-grained. Nevertheless, none of the steatite collected during data recovery operations exhibits evidence of modification; e.g., apertures from which beads were removed, or cuts made to free suitable pieces to make other items. A single specimen (942, #51), resembling a pendant, was identified in the field as possibly made of steatite, but that attribution is incorrect.

Unmodified Bone

Site -942 yielded 1,475 fragments of unmodified animal bone; however, unhappily most fragments are too small to permit unequivocal identification as to the species and/or minimum number of individuals represented. Most of the comminuted bone is readily identified as that of large ungulates, deer being the usual suspect: one fragment is part of the mandible of a deer; another is the right metacarpal of an adult deer. No fish or bird bone was found in the collections from the one-by-two-meter square units. The well preserved bones of very small animals, such as gophers and mice, are present in the screened midden from Unit 4, indicating that absence of fragile bird and fish bone is probably not attributable to poor preservation, as might be due, for example, to acidic soil.

Laboratory inspection of the 1,475 fragments of animal bone from Units 1-5 revealed that 566 (37%) are calcined or burned. The remaining 934 fragments (63%) apparently had not been exposed to fire. The vast majority probably are fragments of shaft or long bones of large mammals (Figures 50, 51). The comminuted bone fragments are actually quite well preserved, although some exhibit indications of post-dispositional damage due to gnawing by rodents, porcupines, coyotes, and, doubtless, camp dogs.

The fact that not a single bone from a large mammal was intact, and that the 595 bone fragments from the Unit 4 screened midden had been thoroughly smashed into very small pieces, is interpreted as evidence that bones were intentionally broken by the site's occupants, doubtless to obtain marrow, and perhaps pulverized bone was added to soup, gruel, bone grease or other food.

The apparent lack of fish bone at site -942 may be due to two factors, one of which is sampling error (perhaps fish bones were not observed during excavation or retained in the screened midden samples), or, they may in fact be absent due to the season or seasons when the site was occupied. Anadromous fish are found in the Trinity River during spring and fall (Hoveman et al. 2003). If salmon were scarce during the summer months their absence at the site could thus be explained. Extending this inquiry to other sites in the region, we note that fish bone was not reported found at CA-TRI-1019, -177, or -1008, and the latter two sites are adjacent to the Trinity River. Treganza (1958, 1959) also remarked that fish bone was absent in the archaeological matrix at sites along the Trinity River in the "take areas" of the Trinity and Lewiston reservoirs. Treganza considered the possibility that faunal remains might have deteriorated due to acidic soils, but dismisses this as a factor affecting all or most excavated sites in the region. Treganza (1958:6) states[2]:

> Another possibility is that those people keeping village dogs left in their midden record little or no evidence of bone refuse. The lack of bone refuse may be observed even today, for example, in any small Mexican village, where the dogs are kept but are forced to fend for themselves in the way of diet. The Wintu are reported to have had dogs, and the training and even the appearance of such dogs are noted in Du Bois [1935:11].

As to the apparent lack of fish bone at the Trinity and Lewiston reservoir sites, Treganza (1958:6) further notes:

> Finally, there is a possible explanation in the observation that here, as in other places . . . various bones were pounded to a powder and eaten. . . .Du Bois [1935:16] notes . . . that "The heads, guts, tails and bones [of fish] were dried and pounded into a fine flour for winter use."

That practice, perhaps more than any other, could account for the general lack of fish bone in archaeological sites in Wintu country. There is little doubt of course that fish, particularly salmon and steelhead, were part of the Wintu diet (Hildebrandt and Darcangelo 2008; Snyder 1924). Hildebrandt (2007:93) states, "Gunther barbed projectile points . . . and concave-based points [were] used to tip composite harpoons used for taking marine mammals and fish." Salmon bones are relatively soft and often do not survive in archaeological contexts.

5. SUMMARY, DISCUSSION, CONCLUSIONS

One of the principal attributes of site CA-TRI-942 is the relatively rich assemblage of projectile points, which, throughout Northern California and elsewhere, constitute a valuable temporal diagnostic and, as some contend, cultural diagnostic as well (Hildebrandt 2007, 2008; Hughes 1986:86-122). Moreover, the archaeological assemblage occurs in an anthropic deposit 140 cm deep, exceeding that of many other sites in the region. Most of the specimens are made of obsidian which can be attributed to a given source by its chemical composition. Identification of the sources of obsidian found at site -942 has implications both for trade and direct acquisition of this valuable toolstone. Also, the steatite outcrop at the site provides at least one known source of this mineral in Trinity County.

The variety of projectile point types recovered from the site is intriguing: do the different point forms represent site occupation by members of different social groups, or variation due to the preference of individual hunters, or are the point forms specific to the varieties of game being sought, or do they reflect changing technology during a period of time, and thus have chronological attributes? These questions have been posed in one form or another by researchers elsewhere, e.g., Baumhoff (1965) in reference to Kingsley Cave, Johnson and Theodoratus (1984), later by Hamusek-McGann (1988), and subsequently by the senior authors during analysis of an assemblage of comparable complexity recovered during excavations in Tehama County, east of Red Bluff (Napton and Greathouse 2000). Sundahl (1982) suggested that the Gunther series has chronological attributes; that is, the expanding-stem type is the earliest form, succeeded by other forms and finally by the contracting stem variety, but not all researchers agree with this hypothesis. At least one type (Gunther barbed) apparently is functionally different. Hildebrandt (2007:93) avers it was used to tip composite harpoons. One of Du Bois' informants (quoted below) stated that the contracting stem type was used in war: when the arrow was extracted the projectile point remained in the wound; this characteristic would also have been useful when hunting game.

Response to Research Design Objectives and Questions

Earlier in this report we presented four major research objectives and corollary research questions, following those posed by Nilsson (1990:25-33) in reference to site CA-TRI-1019. They are:

I. **Define Site Content and Function**
II. **Define the site's Time Period of Occupation**
III. **Define Subsistence/Settlement Patterns**
IV. **Assess the Relationship of Site's Assemblage with the Shasta Complex**

If we have any trepidation concerning application of these research questions to the interpretation of site -942, it is due to the fact that we may be asking too much from limited tests of a single site. It is certainly desirable to identify far reaching research questions, as, for example, those articulated by Nilsson (1990), but the data to address such questions may not have been present at the site to begin with, or may not have survived the passage of time, or perhaps some of the nuances of the physical evidence may not have been properly interpreted. Thus, if some of the detailed questions posed by researchers cannot be answered by excavation of four one by two-meter-square units, there is the danger of concluding that the site does not meet the criteria of the California Forest Practice Rules, stated as follows:

> Significant archaeological or historical site means a specific location which may contain artifacts, or objects and where evidence clearly demonstrates a high probability that the site meets one or more of the following criteria:

(a) Contains information needed to answer important scientific research questions.

(b) Has a special and particular quality such as the oldest of its type or best available example of its type.

(c) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

(d) Involves important research questions that historical research has shown can be answered only with archaeological methods.

(e) Has significant cultural or religious importance to Native Americans as defined in 14 CCR Section 895.1 (State of California, California Forest Practice Rules: Definition of Significant Archaeological or Historical Site. 14 CCR Section 895.1).

Moreover, the site must be assessed in terms of the criteria of the California Register of Historical Resources (CRHR criterion 4), to determine whether it does, or does not, have the potential to yield information important to the prehistory or history of the local area, California or the nation. Most professional archaeologist, including the authors of this report, would argue that *any* archaeological site is important, if for no other reason than the fact that each is a unique, fragile, diminishing, irreplaceable resource (see Treganza 1958, 1959). Perhaps it is not that a site has failed to answer questions put to it, but rather that the questions themselves are couched in terms that are in fact unanswerable. With these caveats in mind, what information has the site yielded? Referring to the research objectives presented by Nilsson (1990:25-33), (Research Design *supra*), the following observations are offered.

Site Content and Function

The content and function of site -942 is reasonably evident. In essence, it probably is a seasonally occupied campsite visited on many occasions by hunters (as indicated by the assemblage of some 59 projectile points and fragments of points). While gathering and processing of vegetal foods doubtless would have been part of subsistence-related activities performed by the site's occupants, there is scant physical evidence represented in the collections from the site demonstrating that such activities occurred. Absent, for example, are hopper mortars, such as those found at nearby site -1019. Four test entries were made and a significant part of the site was exposed adversely during construction of the log haul road, nevertheless no hopper mortars were disclosed, either by tractor operations or during controlled excavation. The ground stone assemblage includes several problematical handstones and pestles, but other than those specimens, irrefutable ground stone tools appear to be distinctly in the minority.

One of the attributes that makes the site unique among its known neighbors is the presence of the steatite outcrop, and it may be that this resource alone was sufficiently attractive to encourage visitation to the site over many years. However, as we have seen, none of the steatite fragments found during data recovery excavations display evidence of having been modified by human agency--but this is negative evidence, possibly due to sampling error.

In the photographs accompanying this report the site's terrain appears to slope steeply, as indeed it does, but there are small level areas where its occupants could have camped. No evidence of domestic structures was found: either there were none, perhaps as a consequence of seasonal occupation, or the site had been disturbed by logging operations and post-harvest planting preparation to such an extent that evidence of domestic occupation was obliterated (Figures 69, 70, 72-74).

As to why the site is situated where it is, in addition to the presence of two springs in its immediate vicinity, it is well insolated; during the early spring it may be free of snow early in the season, making it an attractive habitat for game as well as inviting human occupation. The area surrounding the site is relatively *terra incognita* from the archaeological standpoint (an excavated archaeological site, CA-TRI-1019, is five miles distant). Its geographic setting may provide important clues that could aid in locating comparable sites in the region.

Define the Site's Time Period of Occupation

If the site can be assigned to the Shasta Complex or Pattern (Hildebrandt and Darcangelo 2008:17-18), an attribution that the physical evidence seems to justify, then the period of its occupation is reasonably well established by radiometric and other data obtained from regional Shasta Complex sites, dated between AD 700 and 1840 (Nilsson 1990; Sundahl 1982), or 1500 years BP (Hildebrandt and Darcangelo 2008:17).

Sites of the type represented by -942 are often categorized as "temporary hunting camps" and so forth, but the depth of the anthropic deposit at -942 suggests that it was occupied repeatedly, if intermittently or seasonally, during a long period of time, perhaps several hundred years. In lieu of suitable material for radiometric assay, other than animal bone, we cannot ascertain when it was first occupied by humans. The projectile point assemblage (which lacks, for example, projectile points attributable to the Borax Lake and Mendocino series), suggests, certainly, an attenuated chronological sequence, compared, for example, to that disclosed by excavation at site CA-SHA-475.

Subsistence/Settlement Patterns

It would be quixotic in the extreme to attempt to define either subsistence or settlement patterns based on evidence from site -942. Lacking detailed evidence of acquisition and processing of vegetal foods, other than pestles and handstones, the only sure subsistence-related evidence surviving at the site pertains to hunting, and even it is ambiguous, mammal bone from the site having been thoroughly fragmented, and bird and fish bone either absent, destroyed, or not recovered, despite hydrosieving.

Settlement patterns, to our way of thinking, refer to density, distribution and demographic aspects of human use of a given landscape over a period of time. We regret that such information is simply not at hand. Site -942 is situated near, but not adjacent to the Trinity River, and there is certainly an extensive inventory of archaeological sites along this watercourse, many of which are mentioned in this report. But what is not presently known, and would be a worthwhile subject for future research, is, to what extent is this site unique in terms of overlooking the river canyon? Are there many other sites of this type along the higher terraces and mountainsides above the river? The preponderance of archaeological survey apparently has been conducted on terrain near the river, whereas the terrain above it may be less intensively sampled. Settlement patterns may be discerned when such information is in hand, and the place of site -942 in local or areal settlement patterns may become better understood.

Site CA-TRI-942 and the Shasta Complex

We have enumerated some of the attributes of the Shasta Complex as they are traditionally defined, based on summaries provided by Farber (1985), Sundahl (1982), Meighan (1955), Nilsson (1990) and others. These are presented in Table 2 in the form of a basic check list, with the attributes of CA-TRI-942 listed.

Discussion. Of the 14 traits listed in Table 2, seven are represented at -942, seven are not. However, of the seven that are represented, one (Gunther series projectile points) is the most telling in reference to attribution of the site to the Shasta Complex, and the predominance of obsidian toolstone is also an important trait. An unrepresented trait (hopper mortars) is of questionable diagnostic value. The presence of shell beads is an important trait at many Shasta Complex sites near Redding. Their absence at -942 may be due to a variety of causes. Shell ornaments are absent at -1019 as well. Nonetheless, in reference to -1019, Nilsson (1990:107) states:

> Based upon the recovered artifact assemblage, Tri-1019 clearly represents a Shasta Complex site, as defined by Meighan (1955), Sundahl (1982), and others. Among the attributes characteristic of the complex, the following are demonstrated at Tri-1019: (1) a heavy reliance on Gunther series projectile points; (2) a flaked stone assemblage dominated by obsidian toolstone; and (3) the presence of hopper mortars and pestles.

The authors of this report concur with Nilsson that the traits she identifies are among the primary traits of the Shasta Complex as it has long been defined. Only one of these three traits is not represented at -942 (hopper mortars). A possible, although highly conjectural explanation for their absence is that acorns and other seeds requiring processing might not have been ready for harvest when the site was occupied. In any case, for whatever reason, or reasons, no hopper mortars were found at -942.

Sundahl (1982:185, Table 33) lists Shasta Complex traits present at eight sites along the Sacramento River near Redding. Of the traits listed, only six occur at all eight sites. These are Gunther barbed projectile points, hopper mortars, pestles, bone awls, gorges/harpoon points, and game bones. Of these traits only Gunther series points occur at -942.

Is Site CA-TRI-942 a Shasta Complex Site? Given the absence of the majority of traits and artifact types identifying Shasta Complex sites elsewhere in Northern California, particularly in the riverine environment where the eight sites studied by Sundahl (1982) are located, then does -942 and perhaps -1019 represent a different expression or manifestation of the complex? Farber (1985, 1987) suggests that sites in the mountain country were inhabited by highly mobile transient bands of hunters who exploited a much wider range of resources than those available to inhabitants of the Sacramento River valley. Most researchers concerned with the region dismiss this hypothesis, arguing that the riverine resources were far richer and more varied than those available in mountain country. But perhaps Farber was correct when he stated that archaeological sites in the mountains represent occupation by highly mobile bands of hunters, as the assemblage found at site -942 seems to suggest.

Site -942 has significantly less evidence (or none at all) in the way of ornaments and work in shell and bone than is found at the riverine sites discussed by Sundahl (1982). Whether sites like -942 and -1019 are so different from lowland Shasta Complex sites that they should not be considered as such, is certainly an intriguing possibility. Were summer hunting camps occupied by people who spent the rest of the year at villages along the Sacramento River? Is this a regional expression of seasonal transhumanance (*viz.* Davis 1963:202-212)? We regret having to concede that "more work will be needed to investigate this issue," but of course limited tests of a limited number of sites may not adequately address the problem. Pursuant to this discussion, Hildebrandt and Hayes (1993) and Hildebrandt (2007:92), discuss the Mendocino Aspect, stating that the people of that aspect undertook "logistical forays" into the mountains. Hildebrandt (2007:85) states, "Many interior groups moved into the mountains in the summer to collect and hunt for food, often changing settlements five or six times during a season."

Alternative Views of the Shasta Complex Concept. The history of the development of the Shasta Complex "concept," its supporting data and the hypotheses of the archaeologists who defined it, are critically reviewed by King (1989:34-77), who argues that the Shasta Complex, as originally defined by Meighan (1955) is "an ineffectual construct." He contends that many of the traits that ostensibly define the complex are not exclusive to it (nor, we might add, are they necessarily exclusive to any other complex or entity). King (1989:81) opines, "the term [Shasta Complex] has gained a life of its own within CRM and local archaeological circles and seems likely to be forever engraved in the archaeological literature." King (1989) regards the Shasta Complex from the outset of his research as a "problem." Indeed, archaeological theory is littered with the corpses of concepts, constructs, and paradigms that fell by the wayside over the years, but nevertheless are perpetuated in the literature.

Other scholars, e.g. Connelly (1986:143-151), suggest that the Shasta Complex is a variation of an entity that he identifies as the Siskiyou Pattern, while Hildebrandt (2007:87, Figure 7.3; 93-94) advocates the post-AD 500 Gunther Pattern. Still in all, a knowledgeable archaeologist who has undertaken a great deal of research in the Trinity River region, Elena Nilsson (1990), reporting the results of excavations at CA-TRI-1019, undertaken after publication of the contributions of both King and Connelly, states unequivocally that CA-TRI-1019 is a "Shasta Complex" site. Hence, it appears that some regional specialists prefer to retain the Shasta Complex concept, albeit associating it with broader patterns (e.g. the Siskiyou and/or Augustine/Gunther patterns).

Sundahl (1982:95, Table 12) provides data obtained by analysis of ten projectile points from CA-SHA-222 and 20 from -266. The vast majority of these artifacts are identified by Hughes as referable to "Source X," as it was called at that time, subsequently identified as the Tuscan geochemical group. The 20 Gunther series projectile points from -266 are, with but two exceptions, made of Tuscan obsidian. Sundahl (1982:165) pondered another facet of prehistoric use of obsidian sources, e.g., GF/LJW/RS versus Tuscan:

> The overwhelming preponderance of the use of Source X [Tuscan] obsidian in both CA-SHA-222 and CA-SHA-266 was unexpected as the ethnographic accounts collected by Du Bois (1935:25) relate that the Wintu made expeditions to Glass Mountain to the north to collect obsidian, a location which was assumed to be the Medicine Lake Highland. This area, however, would have been outside of Wintu territory as charted by Du Bois, thus necessitating the crossing of traditional Achomawi territory, while Source X [obsidian] could be obtained locally.

As an aside, we note that Du Bois states that she obtained ethnographic data from Wintu of the northern "Upper Trinity" and "Upper Sacramento" subareas (Du Bois 1935:2, Map 1). She does not provide the names of all of her informants, nor does she state how many individuals she interviewed. While her monograph is considered by many as representing the Wintu in general, one might wonder if it does indeed represents *all* of the Wintu subareas that Du Bois herself identifies. Since she apparently concentrated on the northern Wintu, it may well be that *some* members of the tribe made excursions to Medicine Lake Highland for obsidian, whereas others, perhaps those occupying villages along the Sacramento River, may have relied less on Medicine Lake obsidian and rather more on the locally available, if inferior, Tuscan obsidian. To what extent did Du Bois confirm her data from person to person, or

Table 2. Traits of the Shasta Complex*

X = Present at site CA-TRI-942
? = Uncertain
0 = Not present at site CA-TRI-942

X	Deep, ashy midden
0	Inhumations in midden
?	Relatively sedentary/semi-sedentary lifestyle with inhabitants occupying villages along the banks of major rivers and streams
?	Riverine and acorn dominated subsistence orientation
X	Heavy reliance on Gunther barbed series projectile points
X	Flaked stone tool industry dominated by obsidian toolstone
0	Use of hopper mortars and pestles for plant processing
X	Lack of manos or millingstones
X	A varied artifact assemblage
0	Large bipointed knives
X	Winged drills
X	Arrow shaft polishers,
0	Composite toggle harpoon tips
0	Decorative art work/ornament shell beads and pendants Spire-lopped *Olivella* beads, *Haliotis* pendants, *Glycymeris beads, Dentalia*, Clam shell, Incised bone

*After Meighan (1955), Nilsson (1990), and Treganza (1958, 1959).

subarea to subarea? Probably this question may never be answered, unless the essential information could be found in the Du Bois papers housed at the Tozzer Library, Harvard University.

Wintu Ethnography and Obsidian Acquisition

In the summer of 1929 Du Bois, then a student of Professors Alfred Kroeber and Robert Lowie, University of California, Berkeley, embarked on a study of Wintu ethnography. While she was not primarily concerned with Wintu obsidian acquisition, she nevertheless obtained some very interesting information from her Wintu informants. This information, excerpted from her monograph published in 1935, is presented below and in Appendix B of this report. Many archaeologists and cultural anthropologists have speculated as to the extent and significance of Wintu trade networks (e.g., Chase-Dunn and Mann 1998), as opposed to the direct acquisition of desired items or materials from distant sources. Du Bois (1935:25) states:

> There seems to have been no appreciable trading of body paints, yew wood for bows, or obsidian. Most of these objects were procured from their original source by the individual desiring them. If obsidian were actually traded, it was usually for objects of considerable value, such as bows, arrows, and quivers. How large a piece such an equivalent would purchase was not determined.
>
> Foreign exchange was in all probability less developed than that between subareas. The Shasta Indians to the north were the source of the Wintu dentalia and some obsidian, in return for which deer hides and woodpeckers' scalps were given. Obsidian however was more often secured by the Wintu themselves on individual or small peaceful expeditions to Glass mountain in the north.

Du Bois (1935:22) provides information about individual craftsmen among the Wintu:

> Sedim seli was the outstanding craftsman of the upper Sacramento. His daughter gave the following account of his work: "I don't know how he started making things. He just watched others. When he was a boy he watched arrow-point makers. He practiced on their chips. Pretty soon he began making things--arrow points, blankets, grass rope, grapevine ropes, men's carrying- baskets, fish traps, fish nets, anything he wanted. He made just enough for himself. He never lent or sold his things. He always went himself to get obsidian at Glass mountain."

Du Bois (1935:22) states, "An arrow maker required approximately six months to manufacture a set of twenty arrows." In view of the fact that arrows were difficult or at least time-consuming to make, it is not surprising that Wintu hunters would have preferred an arrow that was easily extracted from the carcass of a kill. Perhaps the Gunther-series contracting stem point served such a function: the arrow shaft could be removed; the embedded point remained in the carcass. While it may have taken six months to produce a set of 20 arrows, projectile points could be made in a matter of days, if not minutes.

The presence of craftsmen among the Wintu is documented by Du Bois (1935:22):

> A neighboring chief . . . was the most noted craftsman of the McCloud area at the end of the nineteenth century. He was lame and at the age of fifteen or sixteen years became a maker of artifacts. His son, Perrin C. Radcliff, says he remembers his father making bows and arrows, arrow- and spear points, moccasins, nets, rope, quivers, salmon spears, tanned hides, and fish traps. All these accomplishments the chief had learned from watching the older people. He kept many of his productions for his own use since he hunted and fished himself, but many were sold or rented to others.

Du Bois (1935:37) mentions the potential hazards that faced those who journeyed from Wintu territory to obtain obsidian. She states, "Although the Wintu ventured into Modoc territory for obsidian, they always hoped to avoid encountering anyone on the inhospitable and deserted lava beds."

Included in her Wintu monograph (Du Bois 1935:125) is an illustration of Wintu projectile points, two of which would readily be identified today as "Gunther series" points. Another illustrated specimen is a Side-notched point. They appear in Figure 3 of her monograph, reproduced in this report (Appendix B).

> *Arrowpoints* (dokos). -- Chiefly obsidian, some of other tractable stone; red and white considered supernaturally poisonous, especially red; gray thought particularly efficacious for bear; no natural poison used. Notched points attached by figure-eight lashing; used in hunting (fig.3b). Unnotched point glued in split end of arrow, sometimes bound with sinew (fig.3a, c). Used in war because the point remained embedded in flesh when arrow was extracted. Points made by pressure flaking with bone or horn awl. Stone held on heel of thumb protected by deerskin guard. . . .Of types figured, some have one flat, one convex surface. One aberrant type (fig.3d). Bone points also reported (?).[3]

Discussion. The reference by Du Bois' informants to Glass Mountain as a source of obsidian has not been repudiated by subsequent regional obsidian analyses. The GF/LIW/RS geochemical source is in the vicinity of Glass Mountain, Medicine Lake, and Little Glass Mountain in the Medicine Lake Highland (Hughes 1986:285, Map 8) (Figure 95). As a matter of interest, the Grasshopper Flat and Lost Iron Well sources are the southernmost of the "Glass Mountain/Medicine Lake Highland" geochemical group, and thus are geographically the most readily accessible to visitors from the south. In reference to Medicine Lake Highland sources, Hughes (1986:305) notes, "To date, 7 distinct geochemical varieties of obsidian, representing 11 discrete occurrences, have been identified. . . in the Medicine Lake Highland." (These fine distinctions probably would not be recognized by visual inspection.)

Hughes (1986:302) refers to Glass Mountain as follows:

> A world-renowned obsidian flow which produced literally a mountain of high quality obsidian. [There is] abundant evidence for prehistoric use of this source material in the form of large broken biface midsections and tips. Eruption of this source material was quite late in time, suggesting that Glass Mountain obsidian can be used as an archaeological time marker.

Friedman (1968:878-880) states that the Glass Mountain flow might have occurred as recent as 500 years ago. Miller (1989:1-17) notes "at least four lava flows during the past 1500 years" in the Medicine Lake Highland volcanic field.

A last thought concerns the lack of modified steatite in the anthropic deposits at -942. The apparent lack of it might be due to sampling error: no excavation units were located in close proximity to the steatite outcrop. Excavation in its vicinity might have disclosed evidence of its use. Still, the quantity of obsidian and chert flakes found at the southern, well insolated part of the site infers that tools were made or modified there, and it would seem logical that steatite as well would be present, were it indeed exploited. Against the possibility of steatite quarrying at -942 is its apparent general absence in Shasta Complex sites. For example, Sundahl (1982) in a comprehensive summary of the archaeology of two large Shasta Complex sites near Redding (CA-SHA-222 and -266), does not report the presence of tubular steatite beads or pipes. Treganza (1958:31) recovered a single steatite pendant accompanying an inhumation at CA-TRI-58. He states, "Two fragmentary pendants, similar to each other in form, were found. They were made of steatite and slate, respectively. Both specimens were ground into shape and resemble in outline a perforated, partially serrated arrow point."

Du Bois (1935:26) notes that the Wintu had ornaments of magnesite:

> Magnesite cylinders were also known among the Wintu....The color of the cylinders ranged from an almost pure white to a buff streaked with darker buff. Their size varied from two to five inches in length and from three-eighths of an inch to one and one-half inches in diameter. The largest ones today are valued by their owners at from $35 to $50. The cylinders were usually seen strung on clam-disk necklaces. Although they were called xoxi (charms) they seemed to have had no mana connected, but were freely handled and kept in the house, a risk never taken with a true charm.

The Significance of Site CA-TRI-942

In view of the fact that the anthropic deposits at site CA-TRI-942 yield information of importance in local and regional prehistory, it is evident that the site is eligible for listing at least on the California Register of Historical Resources, and what remains of it certainly merits preservation and perhaps at some future time further data recovery, analysis, and interpretation. The present landowner has been advised of this, and it is hoped the site will remain unmolested during the years to come (see **Inspection of Site CA-TRI-942 Conducted April 8, 2010**). Materials suitable for radiometric assay were obtained and if funds became available, it is possible that the earliest occupation of the site could be ascertained, which would be of great interest to those who study the prehistory of northern California. The site could be approximately dated by measurement of obsidian hydration—again, were funds available.

It is worth underlining the fact that four one-by-two-meter-square units and the profile display cutting produced a total of 59 projectile points, a respectable yield that, solely on the basis of quantity and typology, could be advanced as qualifying the site for the California Register of Historical Resources and/or the National Register of Historic Places, in view of the site's evident potential to yield information of importance in prehistory. In addition to the quantity and variety of projectile points, the site produced other information that *in toto* contributes to knowledge of human use of this part of Trinity County during the Late Prehistoric period.

Epilogue Notes (1): Inspection of Site CA-TRI-942 Conducted April 8, 2010

On April 8, 2010, the senior authors of this report were invited to visit site CA-TRI-942, accompanied by Sierra Pacific Industries (SPI) personnel (Tom Walz and Bob Taylor). The purpose of our visit was to ascertain the present condition of the site, examine the log haul road prism, the steatite outcrop, the condition of the backfilled test units, and obtain information regarding the "country rock" mentioned in the site report that we were writing, rock which was abundant in the excavation units. We were fortunate in our companions, as both Tom Walz and Bob Taylor were present during the 1993 excavations and recalled details of the project. We were pleased to see that the condition of the site has changed very little since 1993. The cutbank along the haul road is partially overgrown; portions of the anthropic deposit are exposed, but do not exhibit obvious archaeological remains (Figures 99, 110). The roadbed and cutslope were examined by members of the party (Figure 98); the height of the plantation conifers was ascertained (some pines are now 50 ft tall), and the considerable proliferation of oak on the site and throughout the former clearcut area was observed (Figure 100-101).

The party ascended the road cutbank and immediately located excavation Unit 1, which had been completely backfilled, but, as is often the case, the fill had sunk approximately ten cm below the surrounding surface (Figure 102). The edges of the unit remain well defined. Units 3 (Figure 103) and 5 were also observed, although the entire surface of the site is covered by a dense accumulation of oak leaves and needlecast 10-20 cm thick, which the party left undisturbed.

The team ascended the rather steep mountainside to inspect the steatite outcrop: one's immediate impression is amazement that anyone found the outcrop in the first place. It is on the mountainslope more than 70 meters distant from the road. The initials "WPM" are still visible, but not as distinct as they were in 1983 and 1993 due to the quantity of lichen and moss growth on the outcrop (Figures 104-109). The other initials and date "1906" are also visible but less readily discerned. Inspection of the steatite outcrop clearly reveals that it has been damaged by sawing, which evidently occurred on more than one occasion; at least once by someone apparently wielding a chainsaw, as the cut is sufficiently wide to have been produced by a chainsaw, rather than a conventional crosscut or rip saw. However, other cuts in the stone appear to have been made with a conventional hand saw. Most of the cupules observed in 1983 have been removed: the cuts on the outcrop give the impression that square or rectangular pieces were systematically detached, possibly for use as fire bricks, as apparently occurred when the outcrop was exploited in 1906.

As we left the site, a well-made and evidently much-used conical pestle (Figure 111) was found on the edge of the roadcut near Unit One. It was measured and photographed in two aspects (Figures 112-113), and left *in situ*. It is possible that this specimen was found elsewhere and deposited at the site between 1993 and the present year. It was noted in 1993 that a small spring flowed near the west edge of the site, but it is not active at the present time (Figure 224). The SPI foresters stated that this is probably attributable to the growth of pines in the surrounding area, which are using most of the available moisture. When the spring flows, water is conveyed under the road via a culvert, still visible. Downhill along the road approximately 30 m from the site the SPI foresters pointed out some of the numerous cobbles that are carried in the Weaverville Formation (Figure 115). These indeed appear to be sand abraded, and apparently derive from the Weaverville Formation, discussed by Phillips (1989). Numerous cobbles were observed along the roadcut; there appears to be little doubt that the vast majority of the cobbles unearthed during excavation of -942 are indeed "country rock" derived from the Weaverville Formation. The geology of this formation is discussed earlier in this report (Irwin 2009; Phillips 1989; Strand 1967).

The site is protected to the extent possible by a locked bar-gate on the access road, and it is hoped that it will remain in its present condition for the foreseeable future.

Epilogue Notes (2): Through the offices of Dan Foster, CAL FIRE, it has been possible to arrange, through the Trinity County Historical Society, for the permanent curation of the Site -942 collections at the Jake Jackson Memorial Museum, Weaverville. Arrangements have been made to deliver the collections to the museum immediately after publication of this report.

Epilogue Notes (3): The archaeological site record form, written in 1983, has been updated by the senior authors of this report and is filed with the Northeast Information Center, California State University, Chico.

Footnotes

[1]There may be a correspondence between the distribution of GF/LIW/RS obsidian in the mountain terrain of Trinity County and the former territory of the Chimariko, who occupied the region immediately west of that claimed by the Wintu. The high incidence of GF/LIW/RS obsidian in the Trinity River country might be due to the fact that Chimariko preferred this toolstone, rather than Tuscan, the sources of which were within Wintu territory. Perhaps it was much easier for the Chimariko to obtain GF/LIW/RS obsidian by skirting Wintu country to the northwest, rather than attempting to pass through the main Wintu territory. While site-942 may be a Wintu occupation site, it is not far from the boundary of the two tribes described by Eidsness (1982), and site-942 and its neighboring sites might have been used by either or both Chimariko and Wintu, use that could have continued during the Late Prehistoric period. Thus, obsidian distribution in the Trinity River country may correlate with tribal territories and social constraints, as Hamusek-McGann has suggested.

[2]These observations were in print decades B.B. (Before Binford).

[3] As an editorial aside, we are not sure what was intended by the question mark at the end of Du Bois' quotation: it appears in her monograph and may reflect some uncertainty on her part in respect to a statement made by one of her informants.

Table 3: P-53-000942/CA-TRI-942
Specimen Totals by Stratigraphic Level

	Core	Biface	Proj Pt	Drill	Ut Fl/Bl	Chopper	Shaft Smoother	Handstone	Hammerstone	MI Frag	MB Frag	Pestle	Pendant	Total
Surface	2	2	11	2	4	1	0	3	3	12	0	0	0	40
L-1	0	0	3	1	0	1	1	0	1	2	0	0	0	9
L-2	0	0	6	0	0	0	0	2	0	0	0	0	0	8
L-3	0	0	7	0	1	0	0	2	0	2	0	1	0	13
L-4	0	0	8	0	1	0	0	0	0	0	0	0	0	9
L-5	0	0	6	0	2	0	0	0	1	0	0	0	0	9
L-6	0	0	6	0	0	0	0	0	0	0	0	1	0	7
L-7	1	0	2	0	0	0	0	0	0	0	1	0	0	4
L-8	0	0	1	0	1	0	0	0	0	0	1	0	1	4
L-9	0	0	2	0	3	0	0	0	0	1	0	2	0	8
L-10	0	0	3	0	2	0	0	0	0	0	0	0	0	5
L-11	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Total	**3**	**2**	**55**	**3**	**15**	**2**	**1**	**7**	**5**	**17**	**2**	**4**	**1**	**117**
	3%	1%	47%	3%	13%	1%	1%	6%	4%	15%	1%	3%	1%	

Core	Biface	Proj Pt	Drill	Ut Fl/Bl	Chopper	Shaft Smoother	Handstone	Hammerstone	MI Frag	MB Frag	Pestle	Pendant
3%	1%	47%	3%	13%	1%	1%	6%	4%	15%	1%	3%	1%

Note: The total of 117 does not include the six specimens from Unit 4 that had no stratigraphic provenience

Table 4: P-53-000942/CA-TRI-942
Specimens by Unit/Level

	Core	Biface	Proj Pt	Drill	Ut Fl/Bl	Chopper	Shaft Sm	Handstone	HS	Ml Frag	Ml base	Pestle	Pendant	Total
Surface	2	2	11	2	4	1		3	3	12		0		40
U-1 L-1			1				1			2				4
L-2			3					1						4
L-3			4		1			1						6
L-4			3		1									4
L-5			4											4
L-6			4											4
L-7			1											1
L-8					1									1
L-9					1									1
L-10			3		2									4
Total	**0**	**0**	**23**	**0**	**6**	**0**	**1**	**2**	**0**	**2**	**0**	**0**	**0**	**34**
U-2 L-1									1					1
L-2														0
L-3			1											1
L-4														0
L-5					1									0
L-6			1											1
L-7	1		1								1			3
L-8											1			1
L-9					1									
Total	**1**	**0**	**3**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**9**
U-3 L-1			2											1
L-2			1											1
L-3			1							1				2
L-4			3											3
L-5			2											2
L-6												1		1
L-7														0
L-8													1	1
L-9			1		1					1		2		4
Total	**0**	**0**	**10**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**3**	**1**	**17**
U-4 L-1														0
L-2														0
L-3								1						1
L-4			1											1
L-5														0
L-6														0
L-7														0
L-8			1											1
L-9														0
L-10														0
L-11					1									1
Total	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**4**
U-4*	**0**	**0**	**4**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**6**

Table 4: P-53-000942/CA-TRI-942

Specimens by Unit/Level

	Core	Biface	Proj Pt	Drill	Ut Fl/Bl	Chopper	Shaft Sm	Handstone	HS	MI Frag	MI base	Pestle	Pendant	Total
U-5 L-1				1		1								2
L-2			2					1						3
L-3			1							1		1		3
L-4			1											1
L-5					1				1					2
L-6			1											1
L-7														0
L-8														0
L-9			1											1
Total	**0**	**0**	**6**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**0**	**1**	**0**	**13**
Totals	**3**	**2**	**59**	**3**	**16**	**2**	**1**	**7**	**5**	**17**	**2**	**5**	**1**	**123**
	U4* Six specimens with no provenience													

Table 5:
P-53-000942/CA-TRI-942
Results of Debitage Analysis

	O	T C	T S	T I	T-Total	GF C	GF S	GF I	GF-Total	CH	CH S	CH I	CH-Total	B C	B S	B I	B-Total	Q C	Q S	Q I	Q-Total	Total
Surface	28	0	0	5	5	0	1	22	23	0	0	0	0	0	0	1	1	0	0	0	0	29
Unit 1	941	12	45	244	301	12	39	589	640	0	7	51	58	0	0	34	34	2	0	23	25	1058
Unit 2	176	2	2	17	21	1	1	153	155	0	4	6	10	1	0	9	10	1	1	18	20	216
Unit 3	414	4	4	134	147	0	6	261	267	0	8	10	18	0	4	6	10	0	8	13	21	463
Unit 4	509	2	2	44	48	0	24	437	461	0	4	71	75	2	36	19	57	0	16	15	31	672
Unit 5	187	2	5	72	79	0	2	106	108	3	0	18	21	0	1	7	8	1	1	9	11	227
Total	2255	22	58	516	601	13	73	1568	1654	3	23	156	182	3	41	76	120	4	26	78	108	2665
	85%	4%	10%	86%	27%	1%	4%	95%	73%	0%	13%	87%	6%	3%	34%	63%	5%	4%	24%	72%	4%	
Total	O												CH				B				Q	
Number	2255												182				120				108	
Percent	85%												6%				5%				4%	

GF = Grasshopper Flat
T = Tuscan

O = Obsidian
B = Basalt
CH = Chert
Q = Quartzite

C = Cortex
S = Seconday
I = Interior

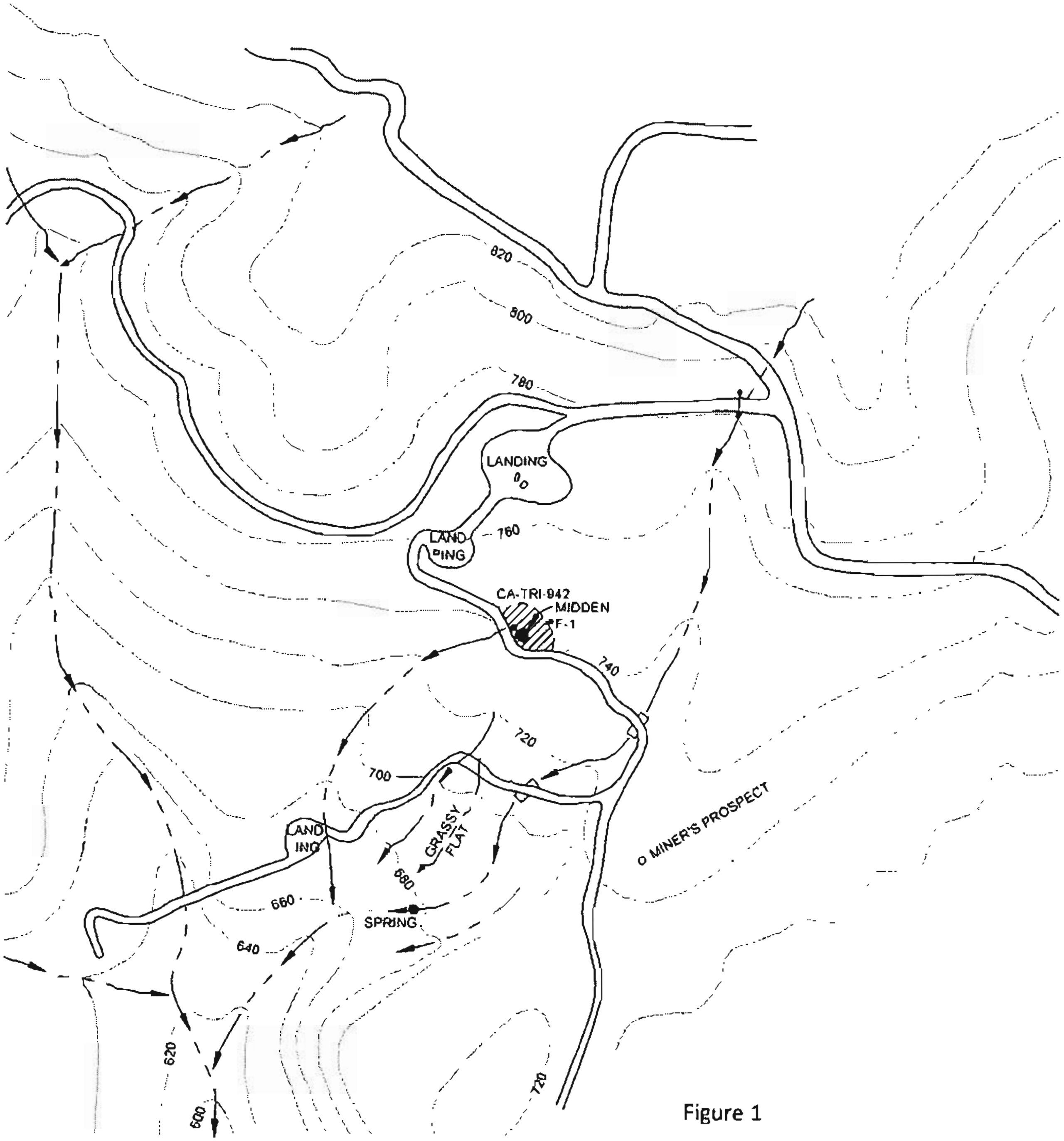


Figure 1

SITE CA-TRI-942 (P-53-000942)

SITE SKETCH MAP

AutoCAD Drawing Traced from field drawing by B Dillon 06/29/93

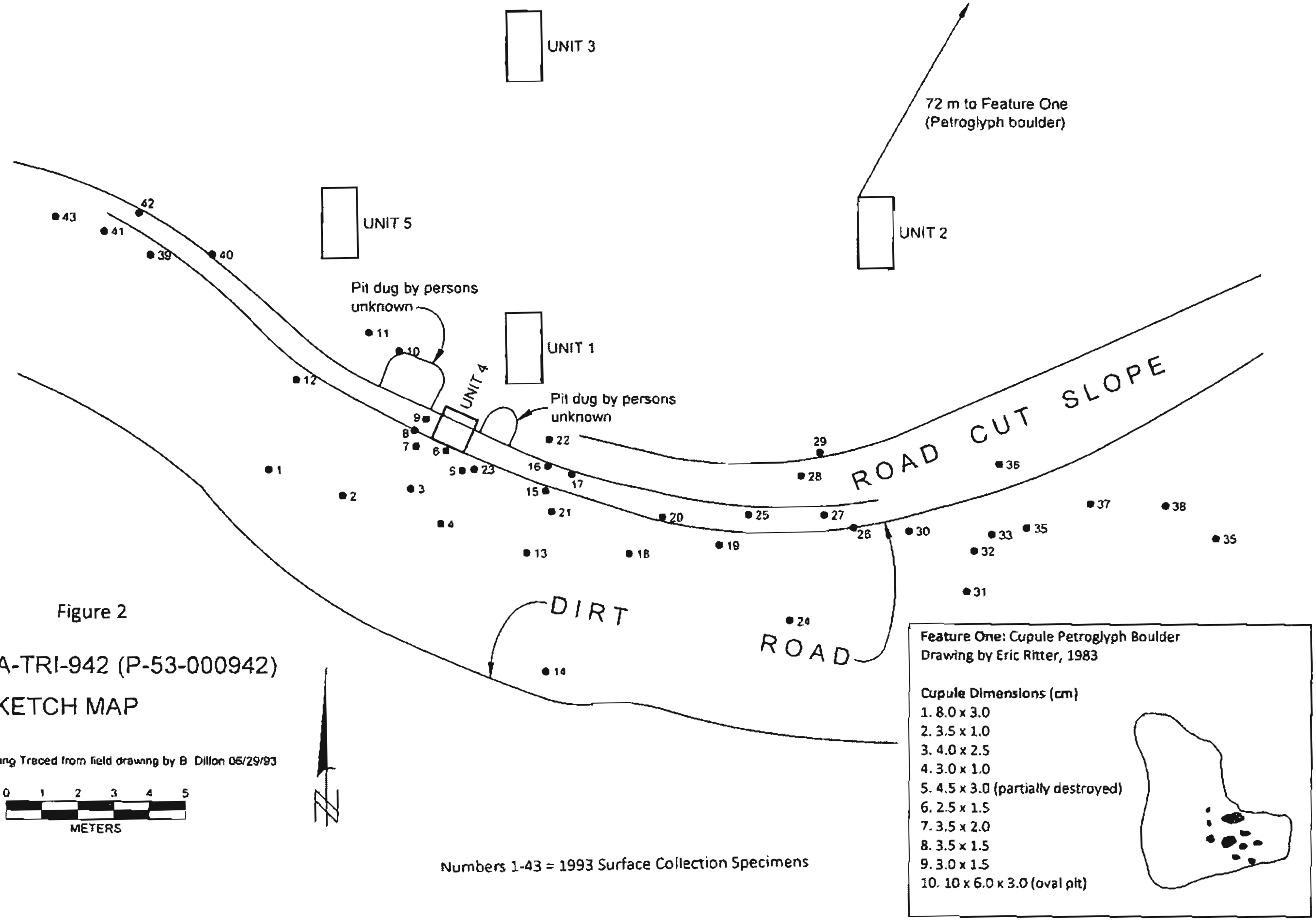
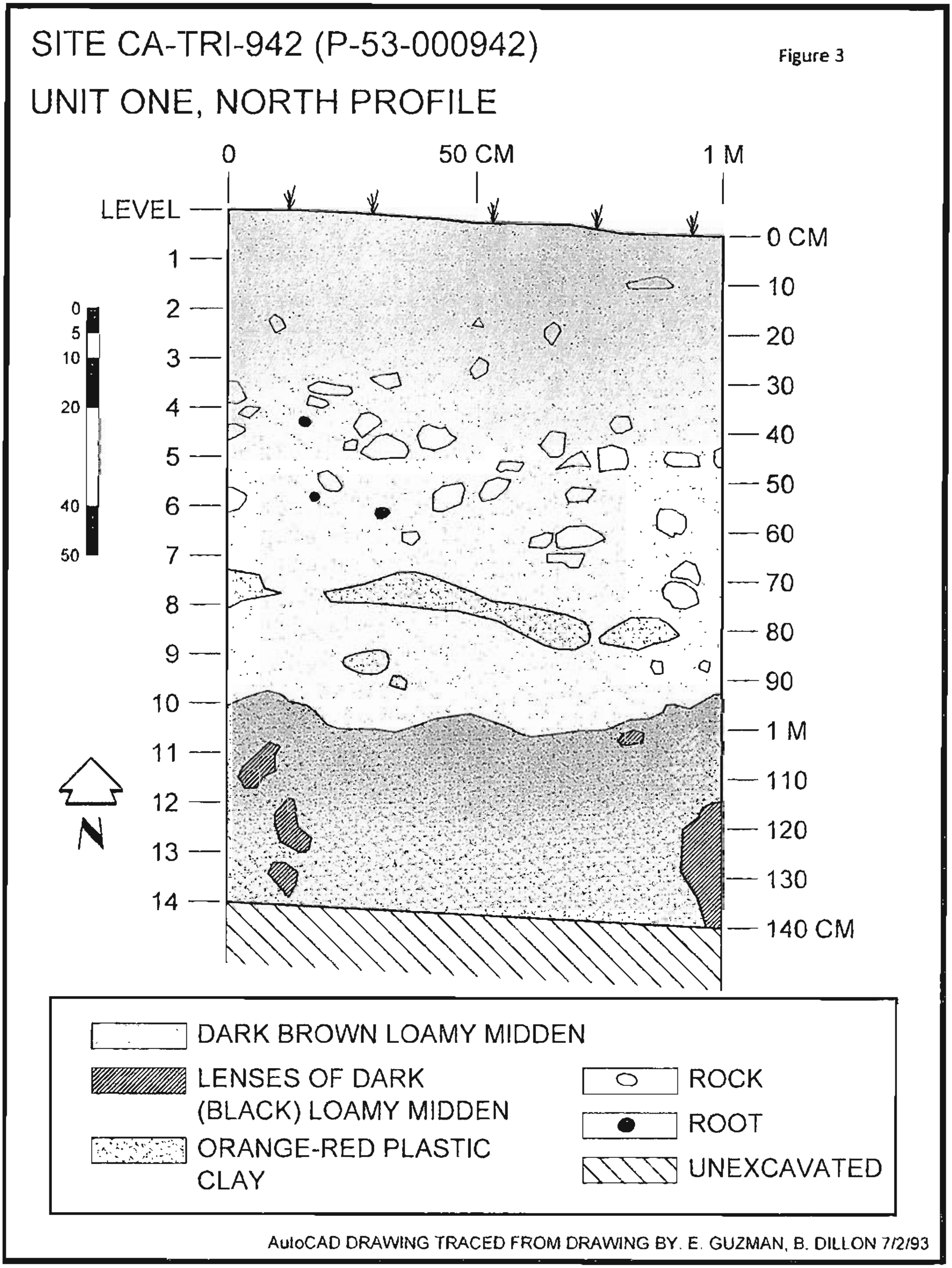


Figure 2

SITE CA-TRI-942 (P-53-000942)

SITE SKETCH MAP

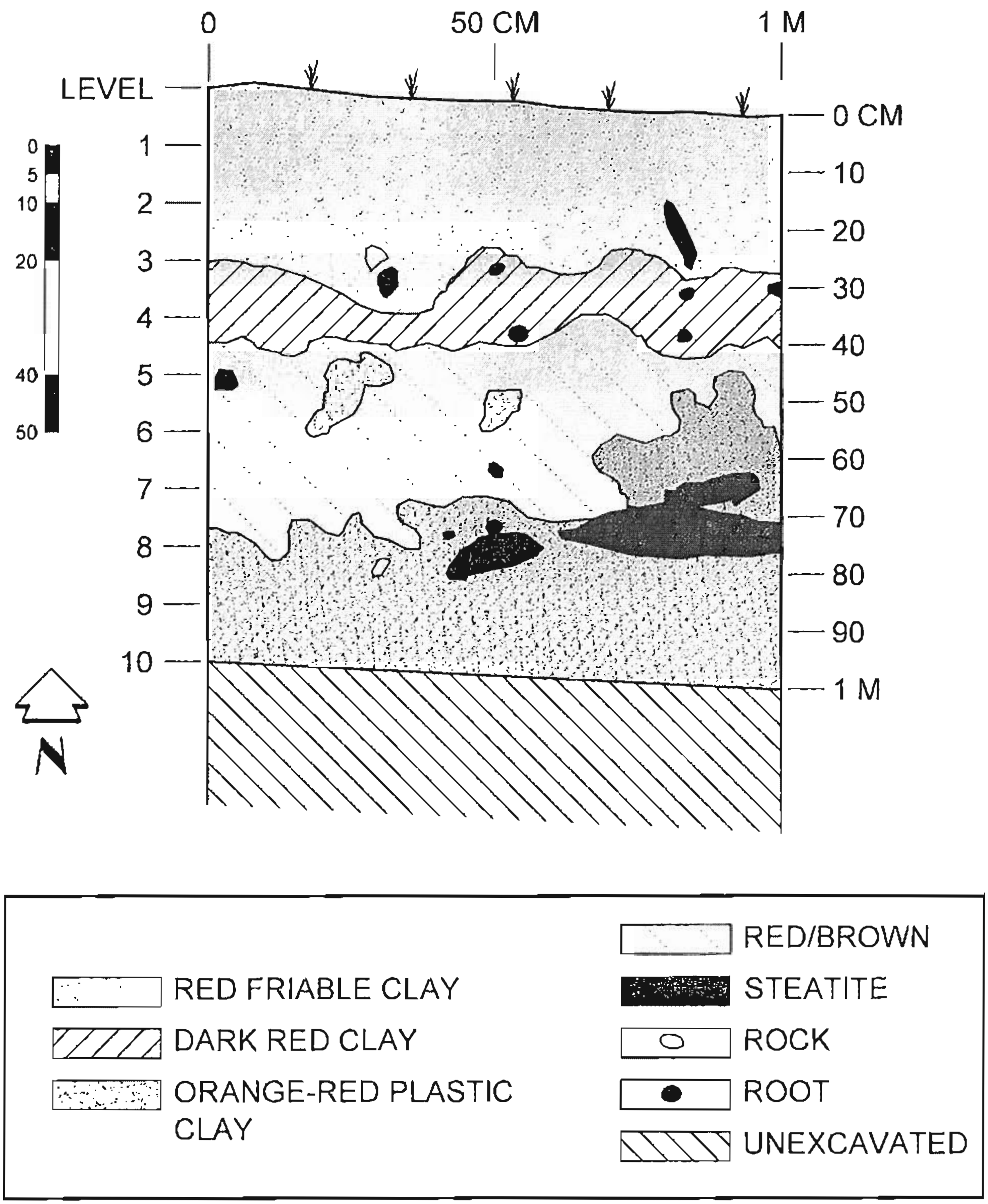
AutoCAD Drawing Traced from field drawing by B. Dillon 06/29/93


SITE CA-TRI-942 (P-53-000942)
Figure 3
UNIT ONE, NORTH PROFILE
0
50 CM
1 M
LEVEL
1
2
3
4
5
6
7
8
9
10
11
12
13
14
0 CM
10
20
30
40
50
60
70
80
90
1 M
110
120
130
140 CM
0
5
10
20
40
50
N
DARK BROWN LOAMY MIDDEN
LENSES OF DARK (BLACK) LOAMY MIDDEN
ORANGE-RED PLASTIC CLAY
ROCK
ROOT
UNEXCAVATED
AutoCAD DRAWING TRACED FROM DRAWING BY. E. GUZMAN, B. DILLON 7/2/93

SITE CA-TRI-942 (P-53-000942)

UNIT TWO, NORTH PROFILE

Figure 4



AutoCAD DRAWING TRACED FROM DRAWING BY: E. GUZMAN, B. DILLON 7/1/93

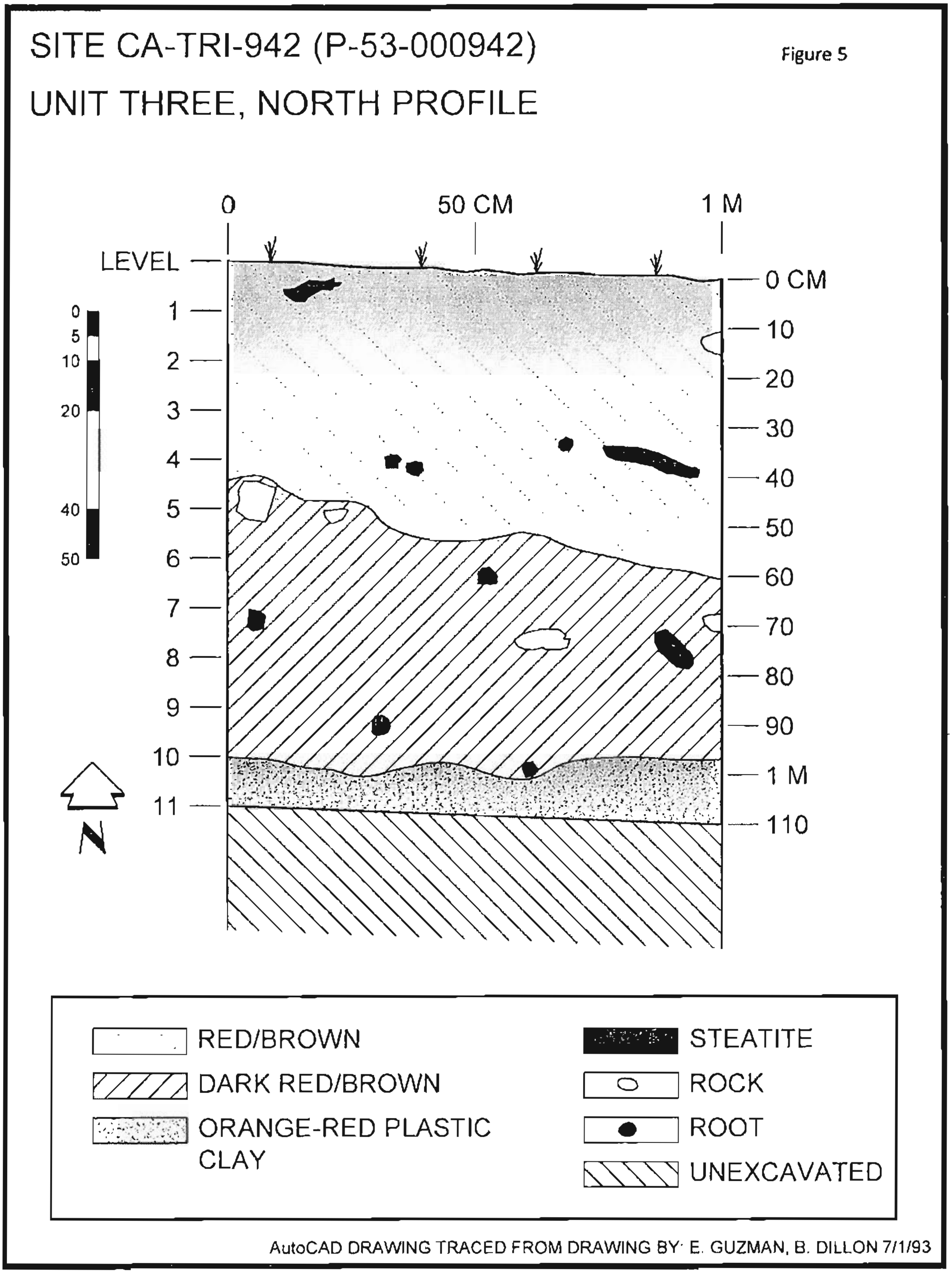
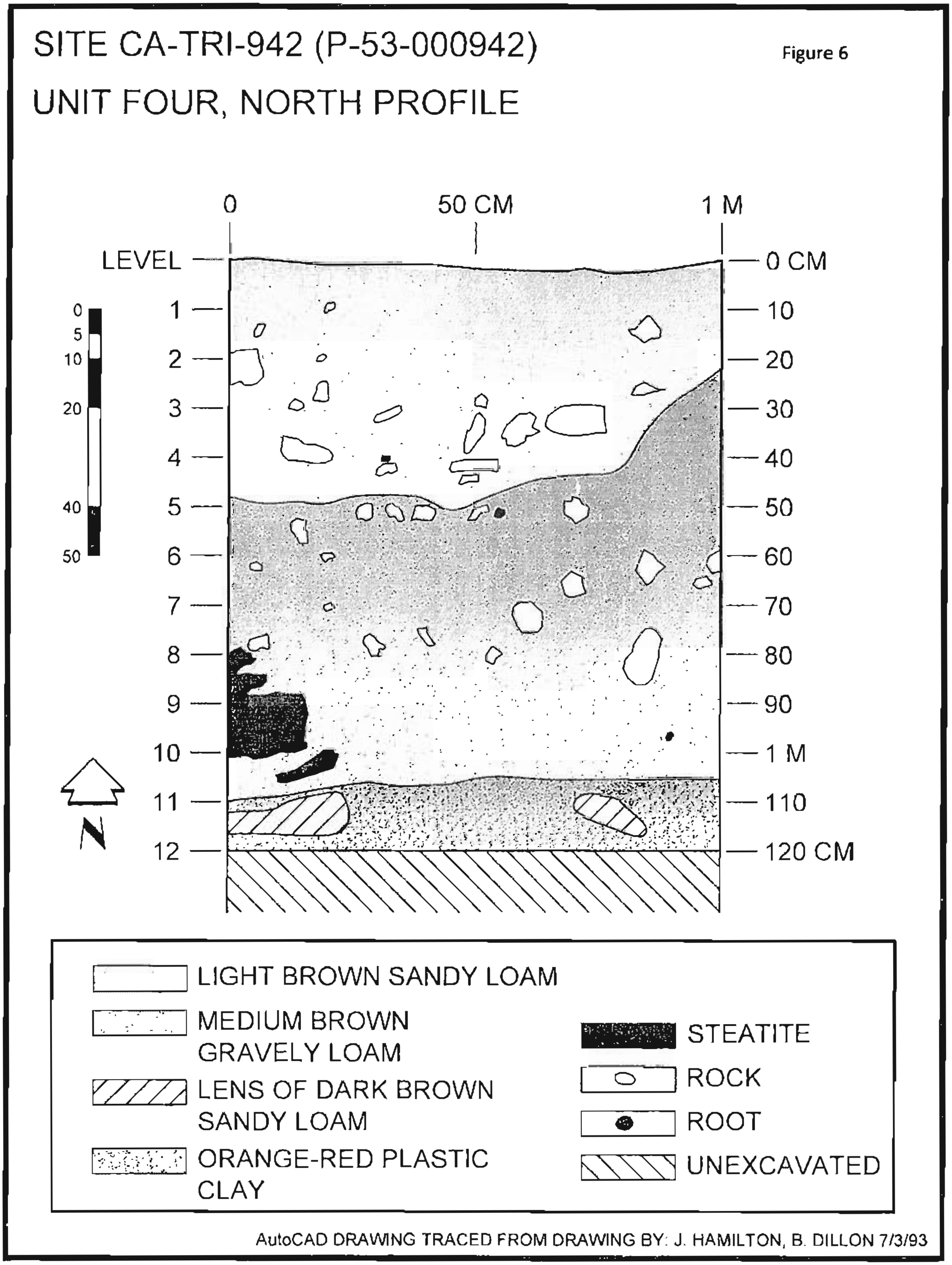
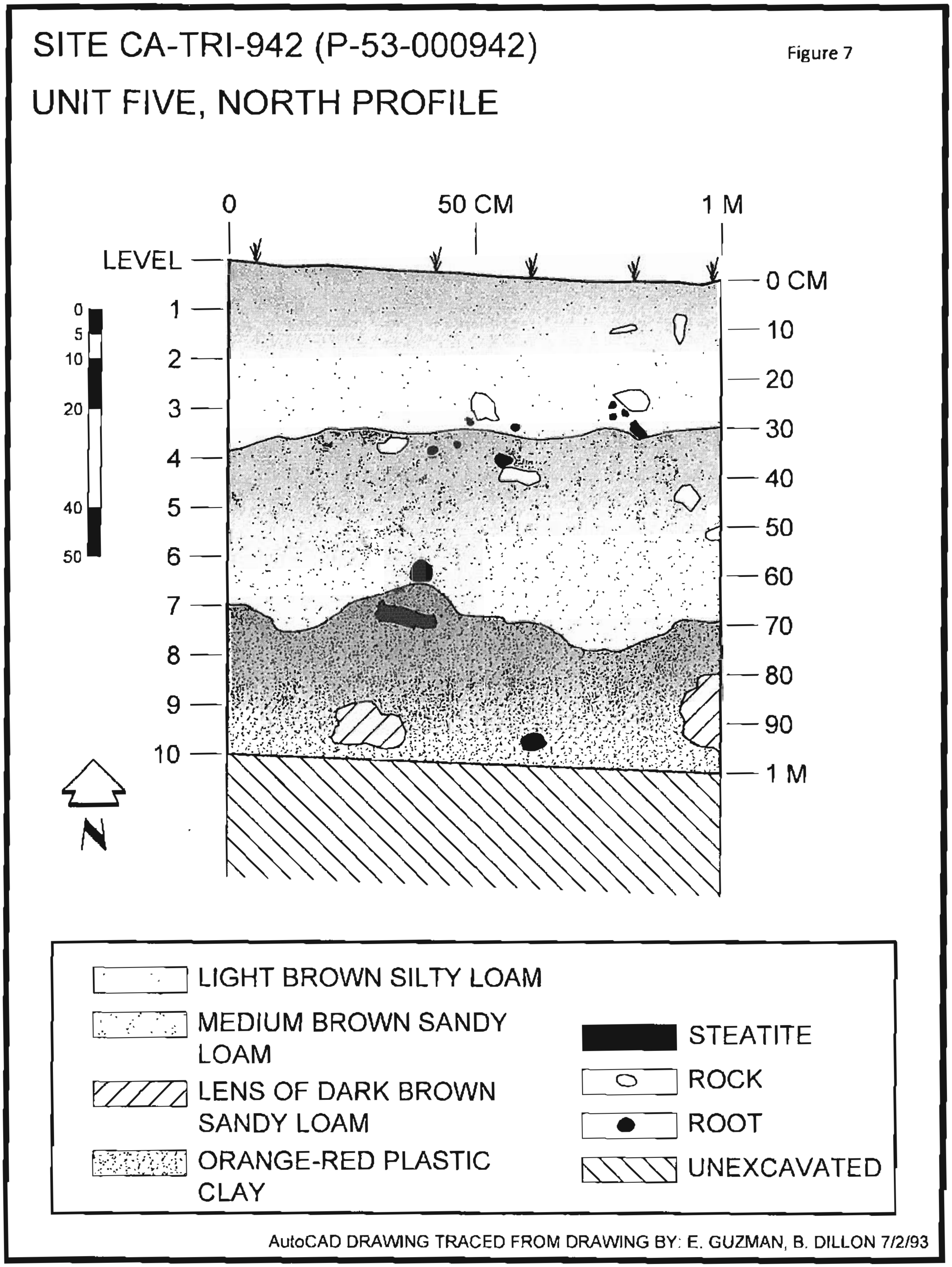

SITE CA-TRI-942 (P-53-000942)
UNIT THREE, NORTH PROFILE
Figure 5
0
50 CM
1 M
LEVEL
1
2
3
4
5
6
7
8
9
10
11
0 CM
10
20
30
40
50
60
70
80
90
1 M
110
0
5
10
20
40
50
N
RED/BROWN
DARK RED/BROWN
ORANGE-RED PLASTIC CLAY
STEATITE
ROCK
ROOT
UNEXCAVATED
AutoCAD DRAWING TRACED FROM DRAWING BY E. GUZMAN, B. DILLON 7/1/93

Figure 6



SITE CA-TRI-942 (P-53-000942)
UNIT FOUR, NORTH PROFILE
0
50 CM
1 M
LEVEL
1
2
3
4
5
6
7
8
9
10
11
12
0 CM
10
20
30
40
50
60
70
80
90
1 M
110
120 CM
0
5
10
20
40
50
N
LIGHT BROWN SANDY LOAM
MEDIUM BROWN GRAVELY LOAM
LENS OF DARK BROWN SANDY LOAM
ORANGE-RED PLASTIC CLAY
STEATITE
ROCK
ROOT
UNEXCAVATED
AutoCAD DRAWING TRACED FROM DRAWING BY: J. HAMILTON, B. DILLON 7/3/93



SITE CA-TRI-942 (P-53-000942)
UNIT FIVE, NORTH PROFILE
Figure 7
0
50 CM
1 M
LEVEL
1
2
3
4
5
6
7
8
9
10
0 CM
10
20
30
40
50
60
70
80
90
1 M
0
5
10
20
40
50
N
LIGHT BROWN SILTY LOAM
MEDIUM BROWN SANDY LOAM
LENS OF DARK BROWN SANDY LOAM
ORANGE-RED PLASTIC CLAY
STEATITE
ROCK
ROOT
UNEXCAVATED
AutoCAD DRAWING TRACED FROM DRAWING BY: E. GUZMAN, B. DILLON 7/2/93

Figure 8
P-53-000942/CA-TRI-942
Specimen Types by Level

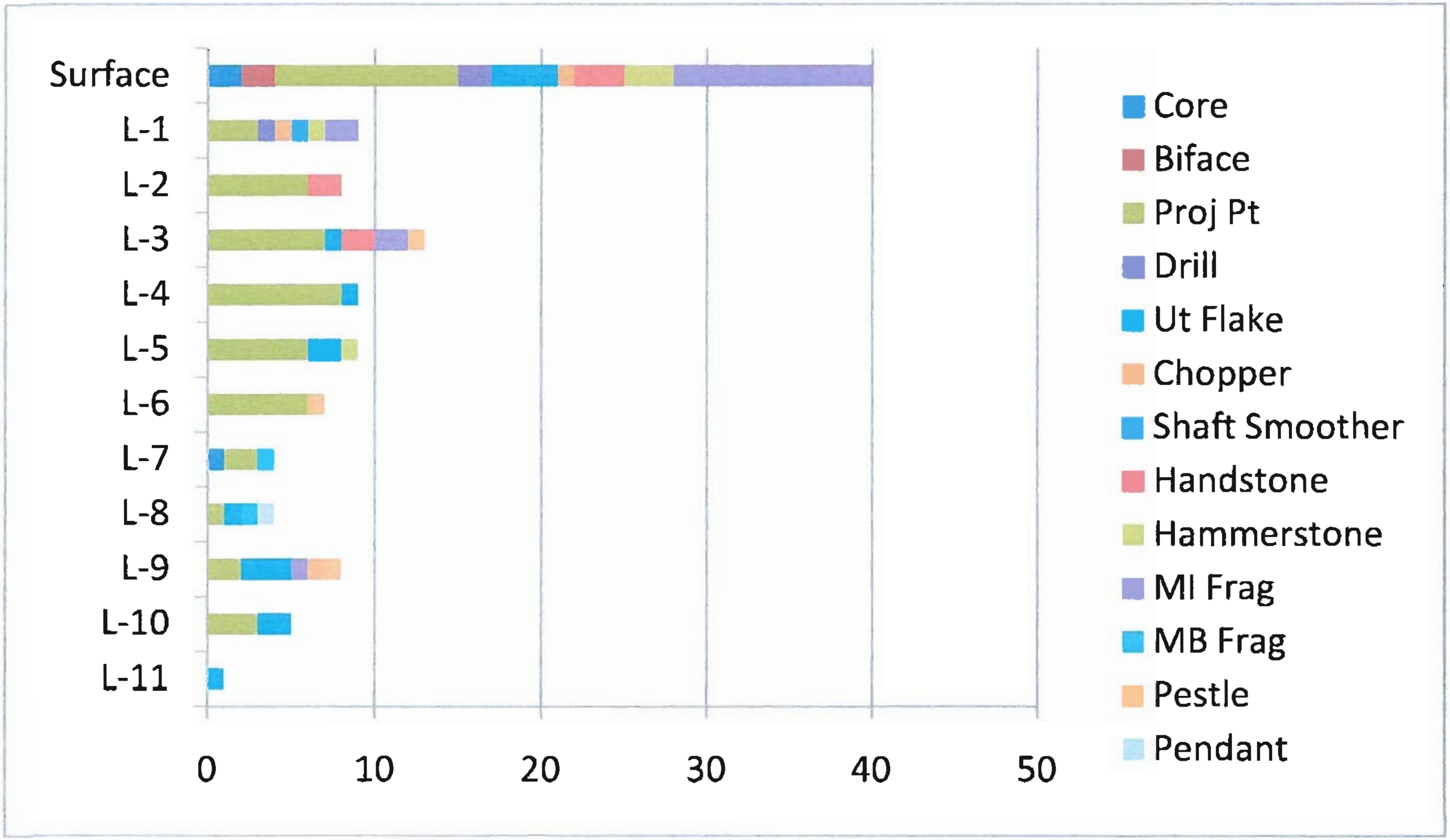


Figure 9
P-53-000942/CA-TRI-942
Debitage Material Types
All Excavation Units

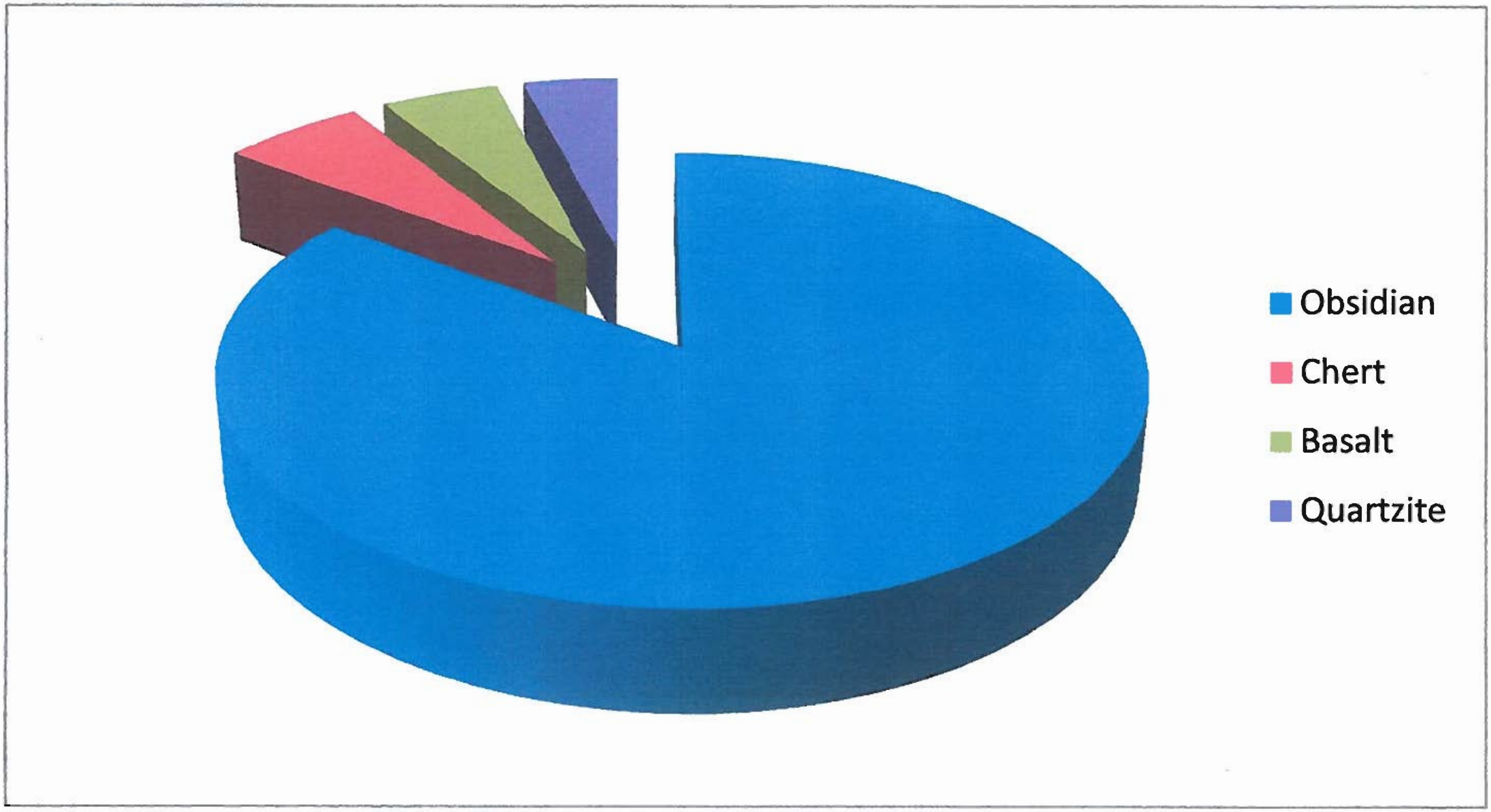


Figure 10
P-53-000942/CA-TRI-942
Comparison of Debitage Material Types by Unit

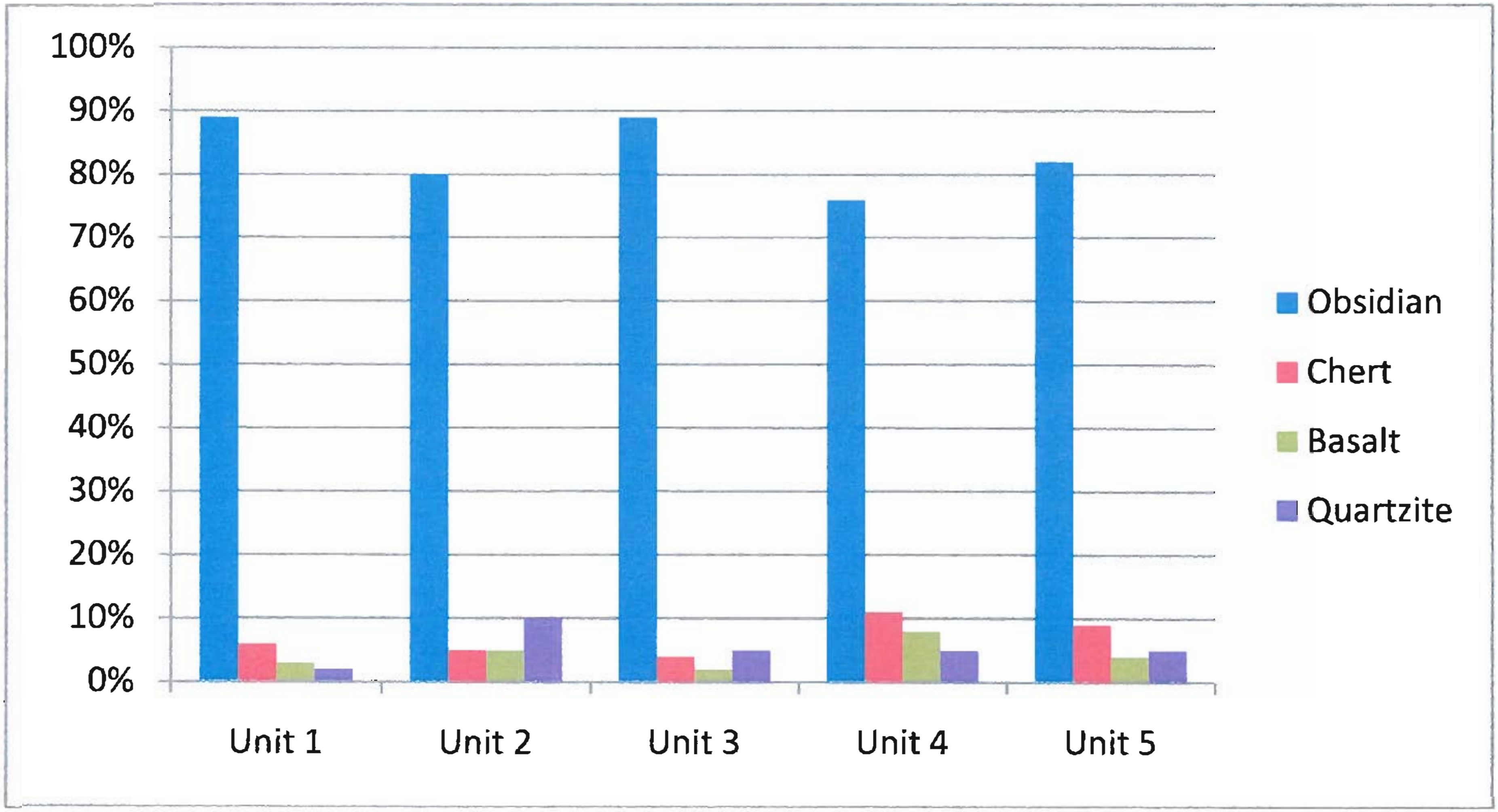


Figure 11
P-53-000942/CA-TRI-942
Comparison of Obsidian Source Materials by Unit

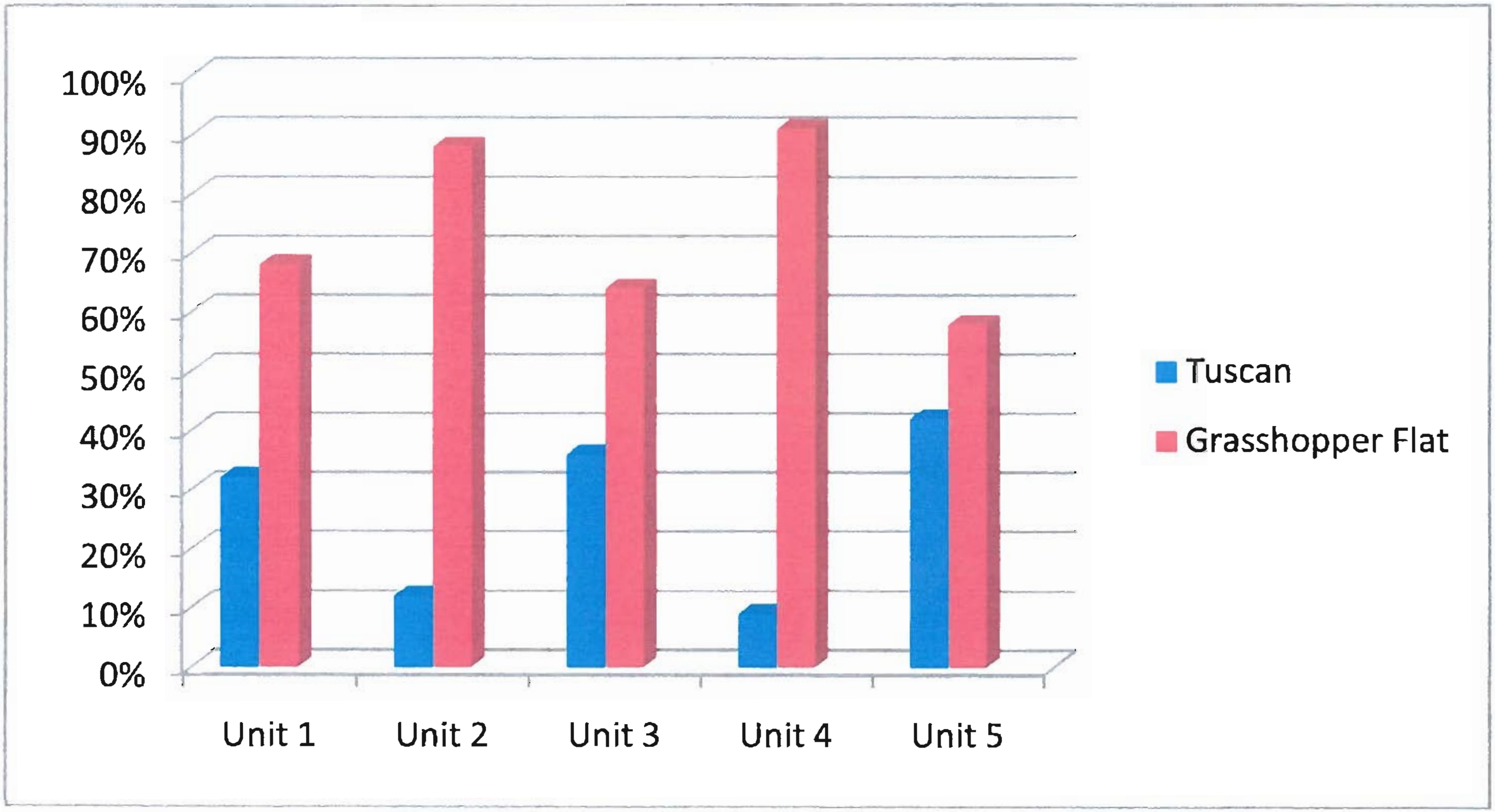


Figure 12
Comparison of Obsidian Source Ratios at Five Trinity County Sites

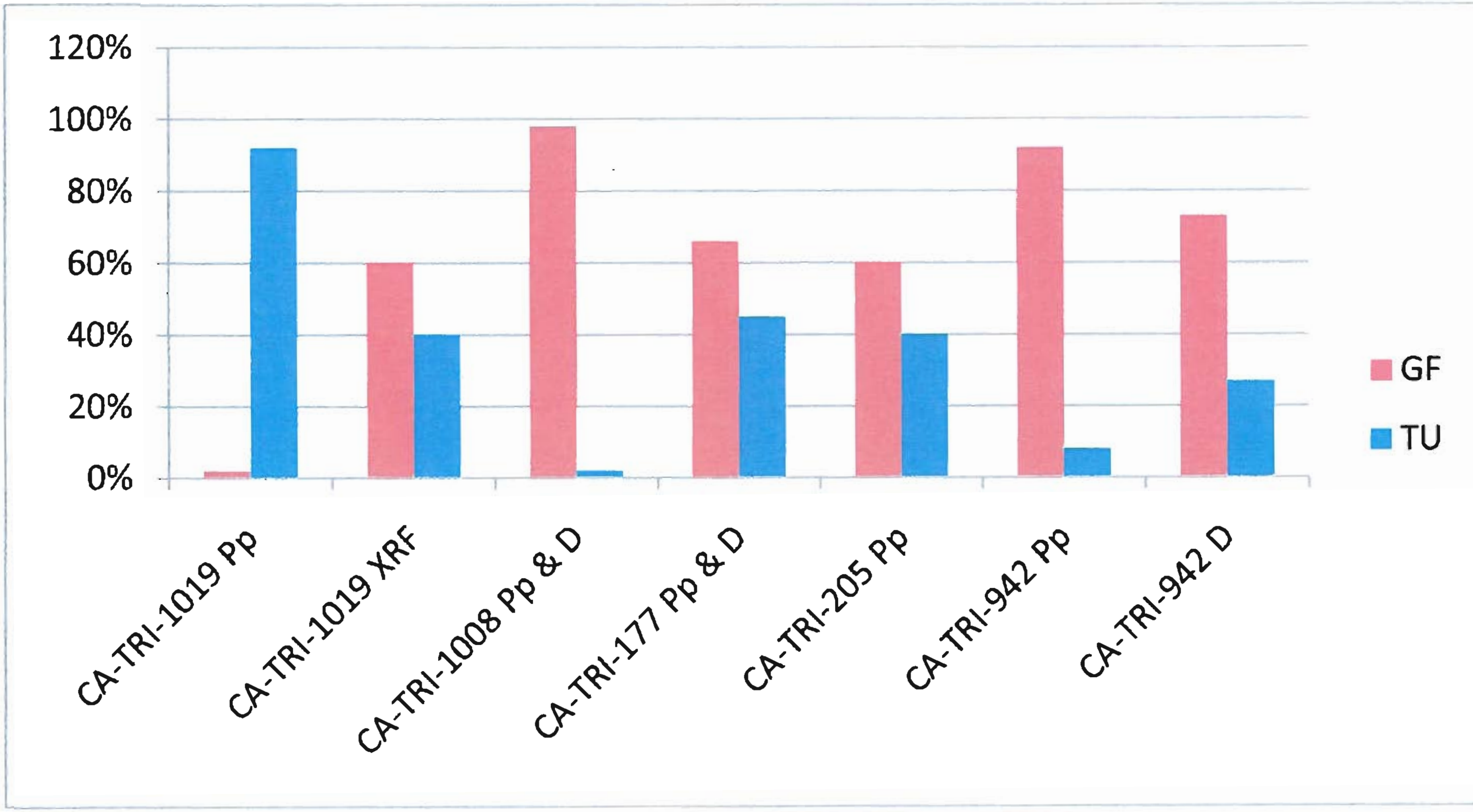
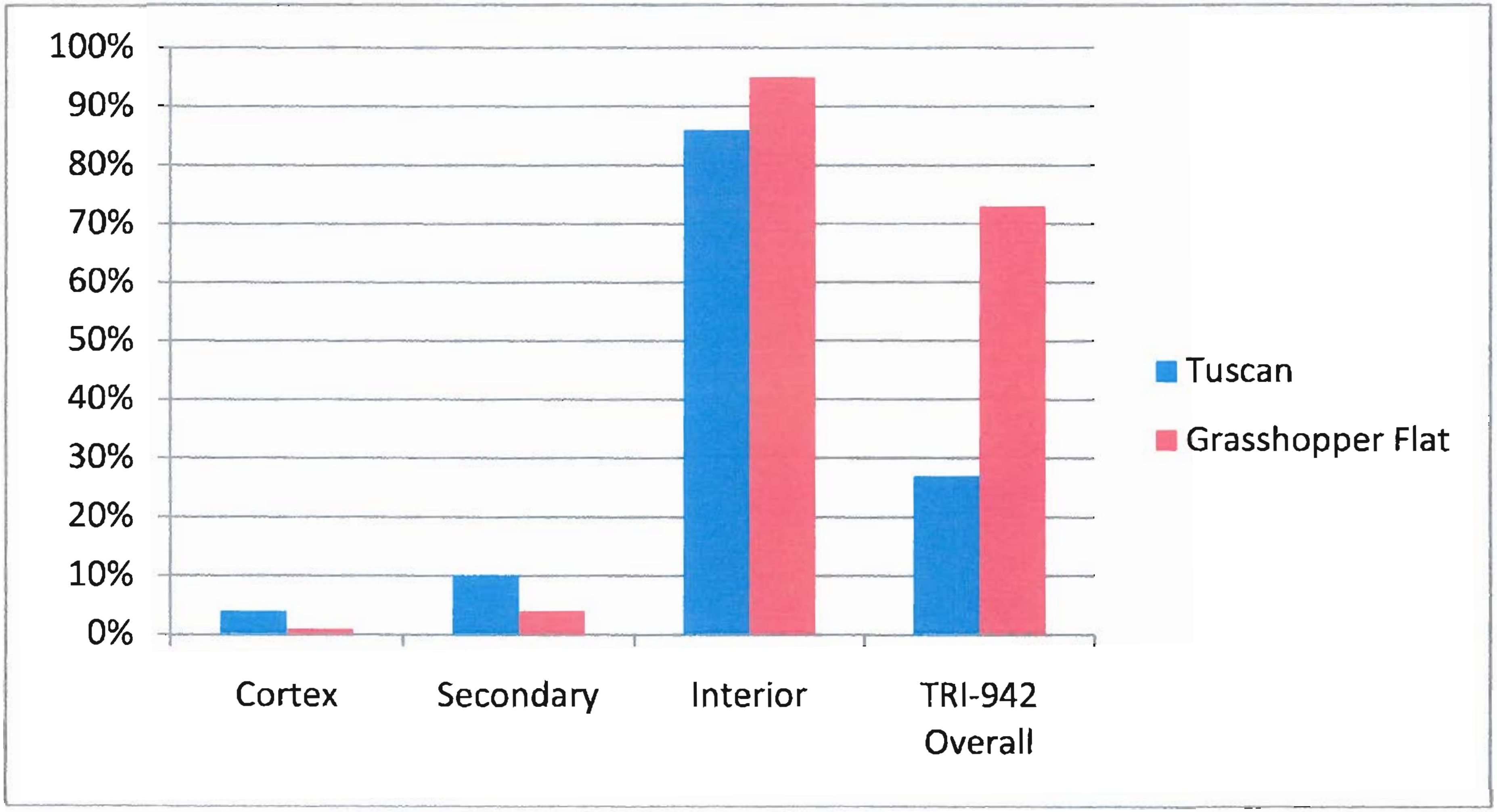
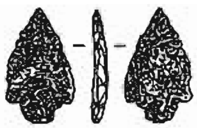


Figure 13
P-54-000942/CA-TRI-942
Obsidian Source/Reduction Stage Analysis for the Entire Assemblage

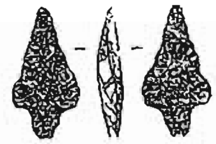


SITE CA-TRI-942
(1983)
SURFACE PROJECTILE POINTS

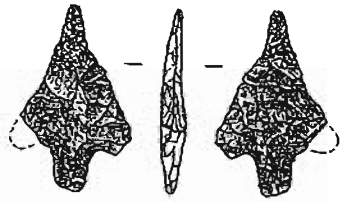
Figure 14



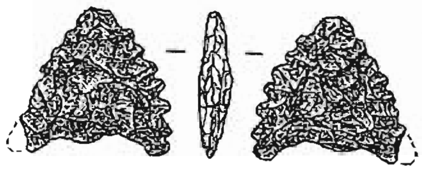
#5



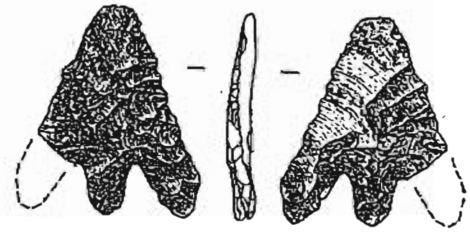
#6



#7

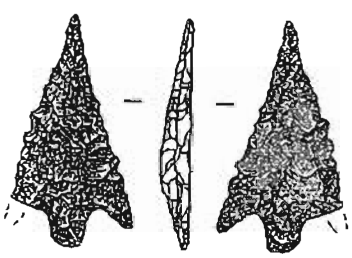


#8

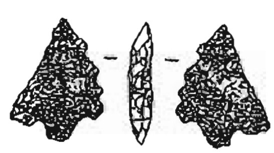


#11

SITE CA-TRI-942
UNIT 4 PROJECTILE POINTS
(no provenience)



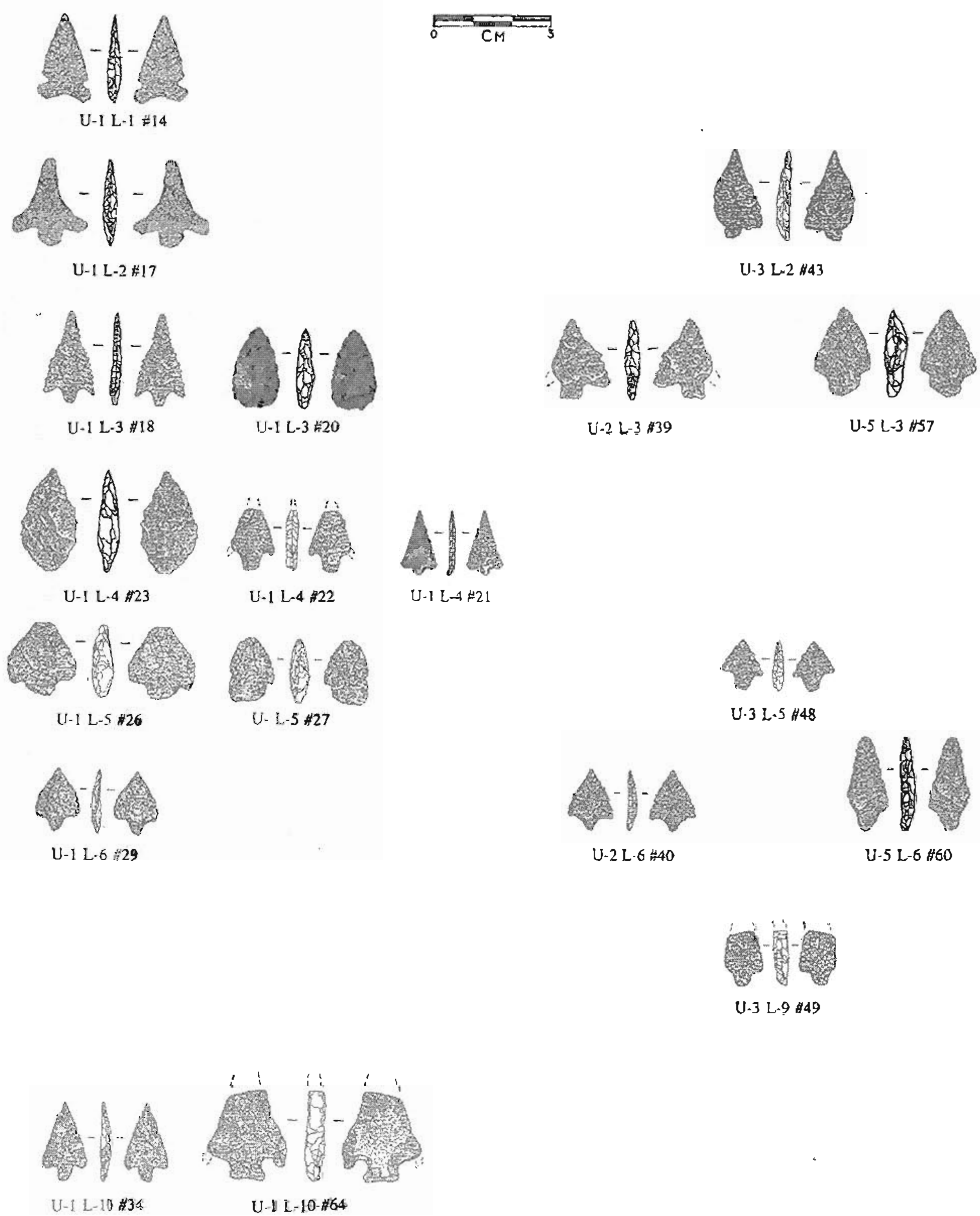
U-4 L-X-#52



U-4 L-X #53

SITE CA-TRI-942
PROJECTILE POINTS
BY UNIT AND LEVEL

Figure 15



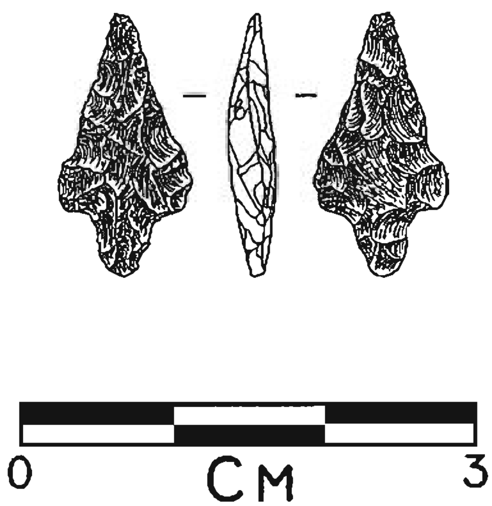
Specimen #5

CA-TRI-942
SURFACE, 1983
OBSIDIAN

C J BACKES

Figure 16

200%



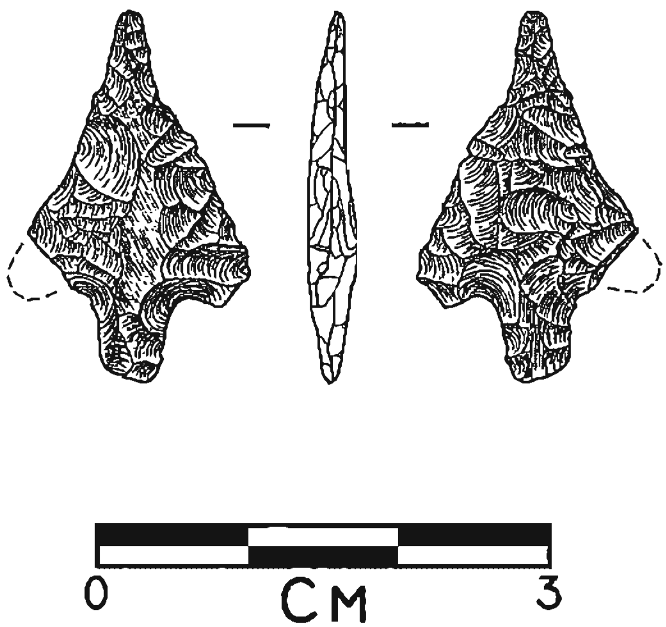
Specimen #6

CA-TRI-942
SURFACE, 1983
OBSIDIAN

C J BACKES

Figure 17

200%



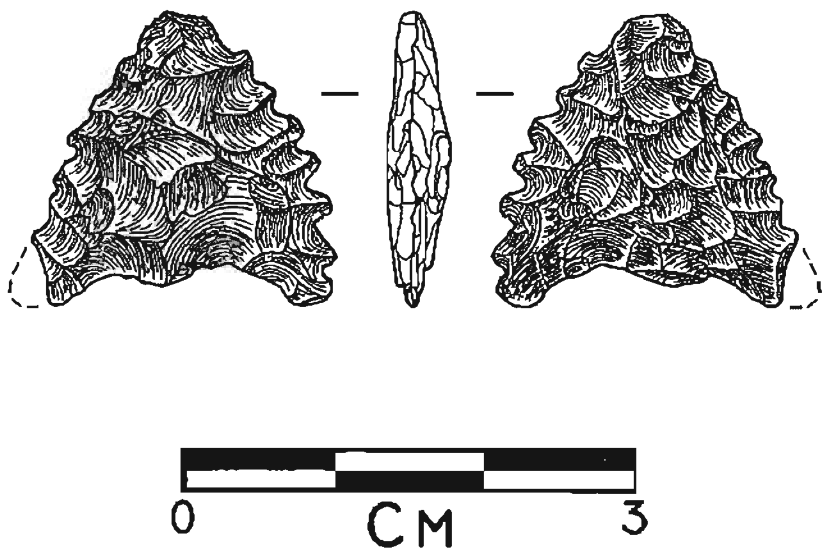
Specimen #7

CA-TRI-942
SURFACE, 1983
OBSIDIAN

C J BACKES

Figure 18

200%



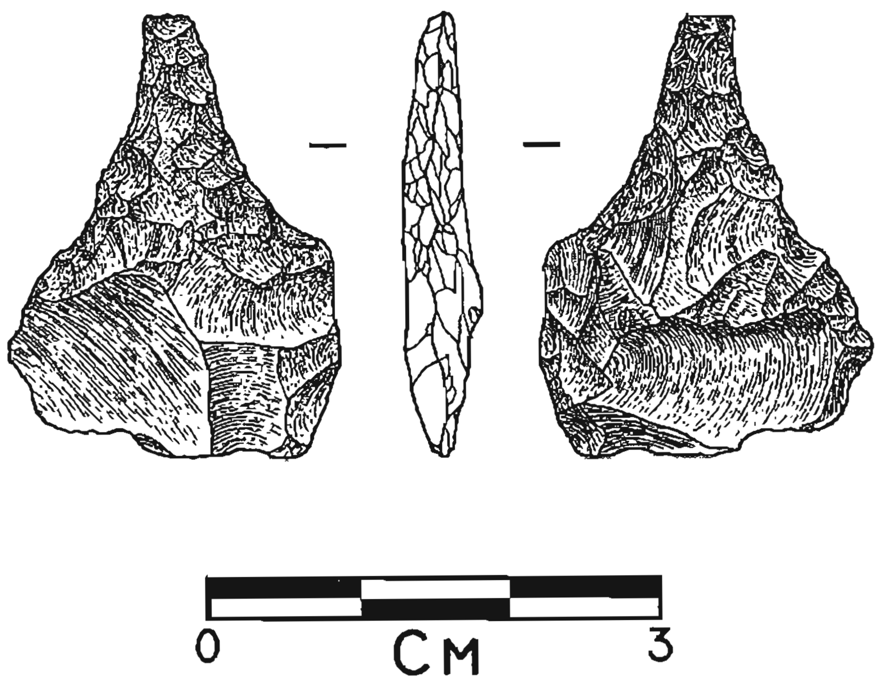
Specimen #8

CA-TRI-942
SURFACE, 1983
OBSIDIAN

Figure 19

C J BACKES

200%



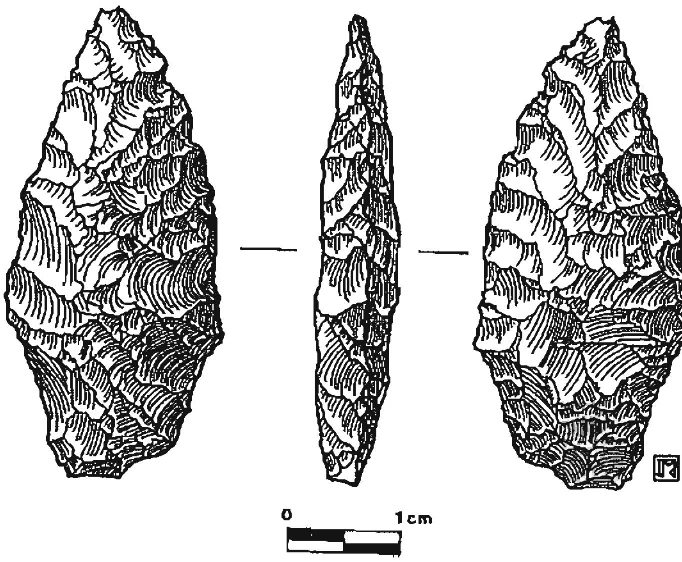
Specimen #9

CA-TRI-942
SURFACE, 1983
SLATE

Figure 20

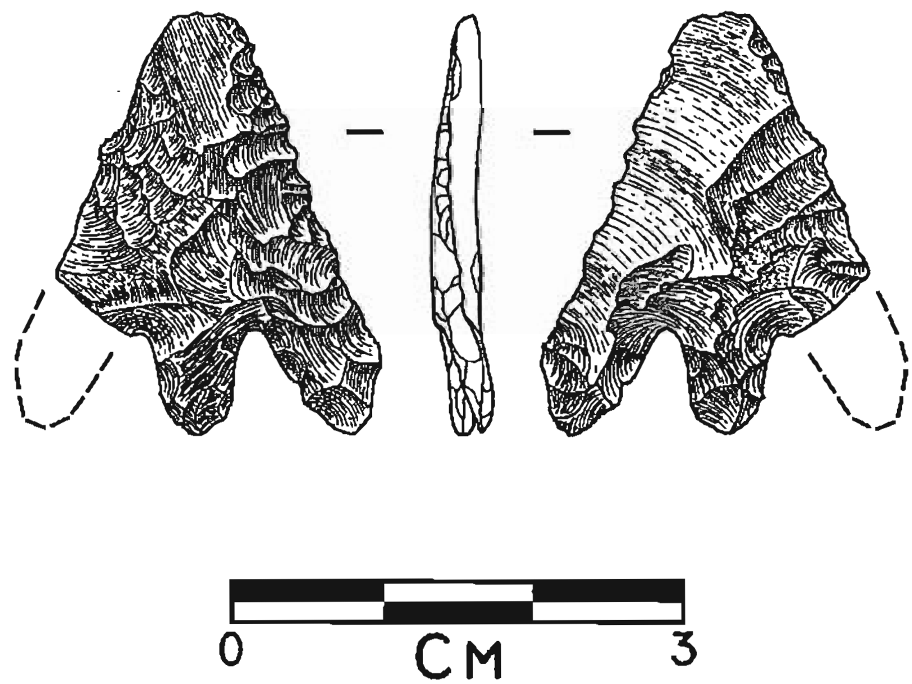
C J BACKES

200%



CA-TRI-942 Surface 1993
Obsidian
Specimen # 10

Figure 21



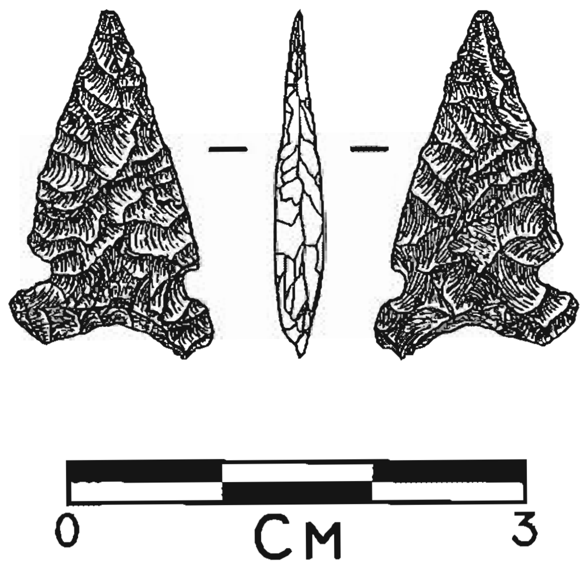
Specimen #11

CA-TRI-942
SURFACE, 1993
OBSIDIAN

C J BACKES

Figure 22

200%



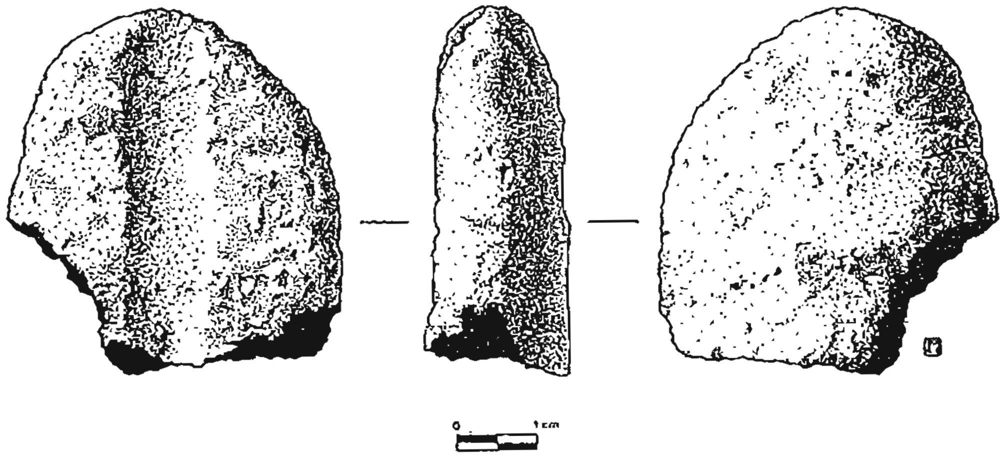
Specimen #14

CA-TRI-942
UNIT I, LEVEL I
OBSIDIAN

C J BACKES

Figure 23

200%

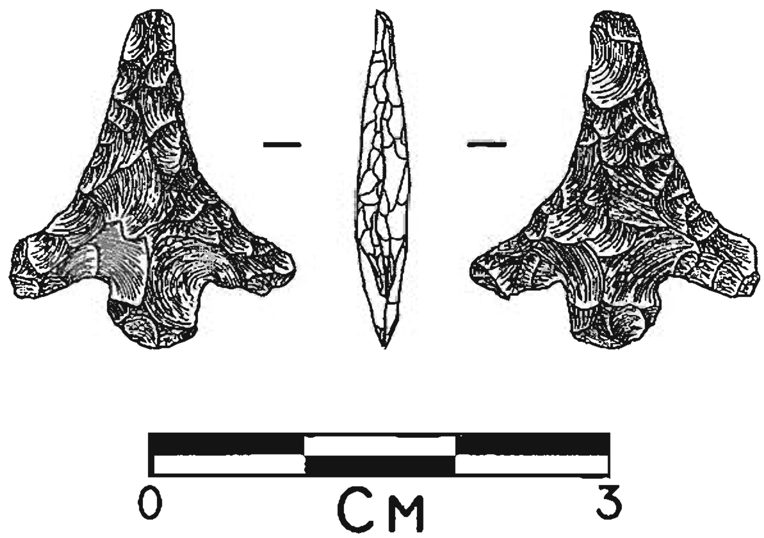


SHAFT STRAIGHTENER FRAGMENT, UNIT 1, LEVEL 1, CA-TRI-942

Illustration by John Mc Cammon, 1993

Specimen #35

Figure 24



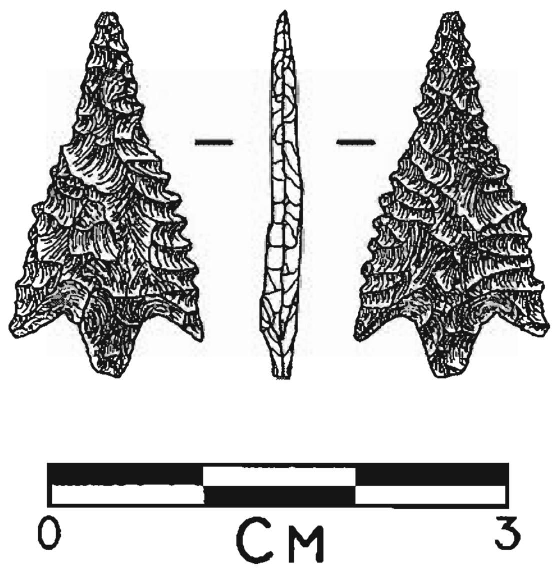
Specimen #17

CA-TRI-942
UNIT 1, LEVEL 2
OBSIDIAN

C J BACKES

Figure 25

200%



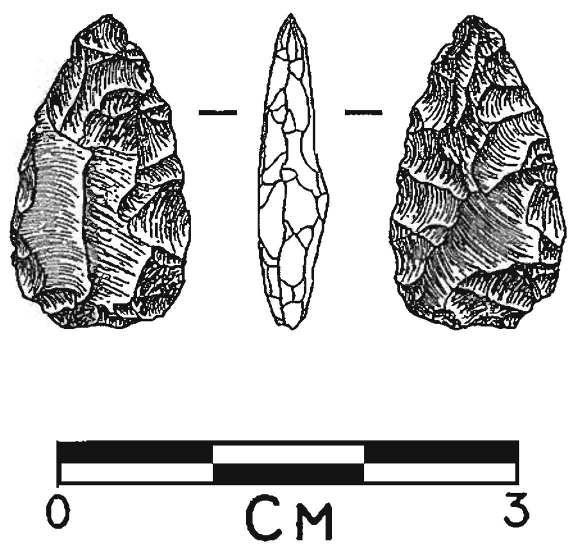
Specimen #18

CA-TRI-942
UNIT 1, LEVEL 3
OBSIDIAN

C J BACKES

Figure 26

200%



Specimen #20

CA-TRI-942
UNIT I, LEVEL 3
OBSIDIAN

C J BACKES

Figure 27

200%

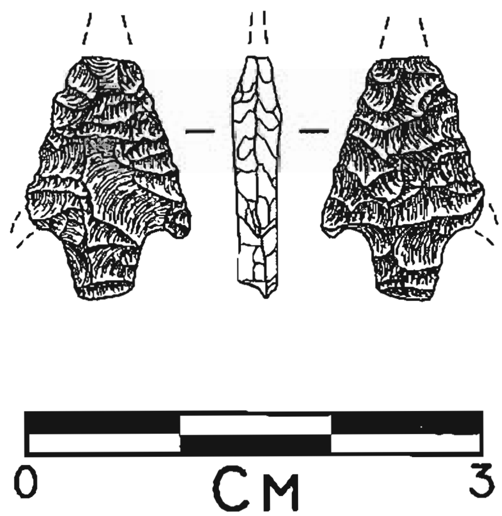
Specimen #21

CA-TRI-942
UNIT I, LEVEL 4
OBSIDIAN

C J BACKES

Figure 28

200%



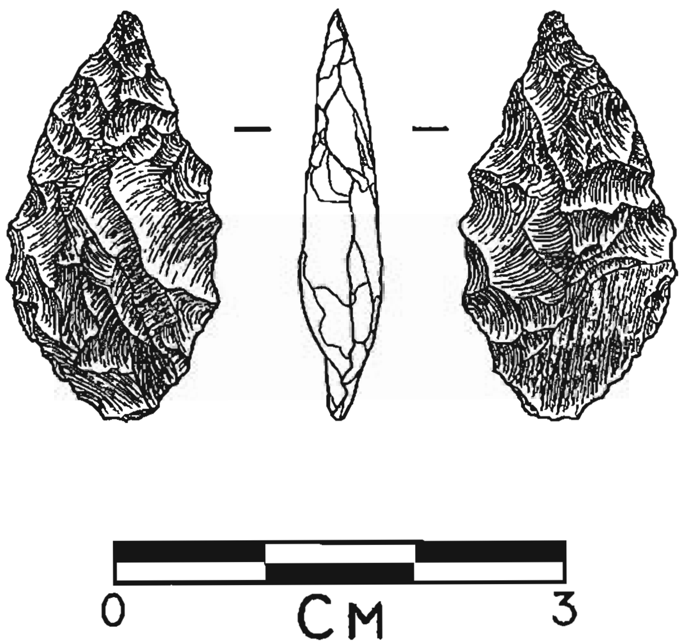
Specimen #22

CA-TRI-942
UNIT I, LEVEL 4
OBSIDIAN

C J BACKES

Figure 29

200%



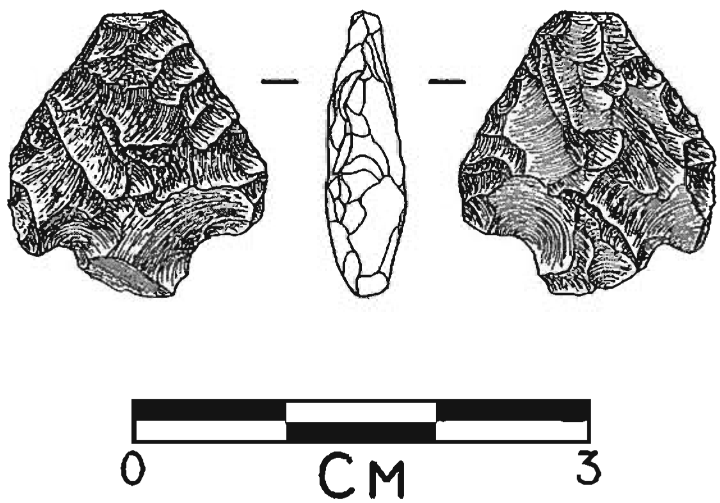
Specimen #23

CA-TRI-942
UNIT I, LEVEL 4
OBSIDIAN

C J BACKES

Figure 30

200%



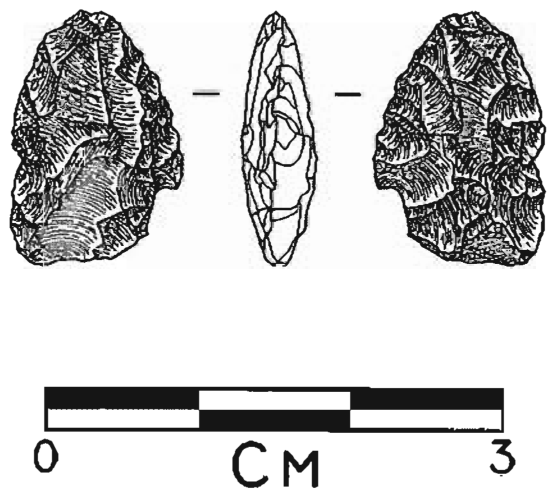
Specimen #26

CA-TRI-942
UNIT I, LEVEL 5
OBSIDIAN

C J BACKES

Figure 31

200%



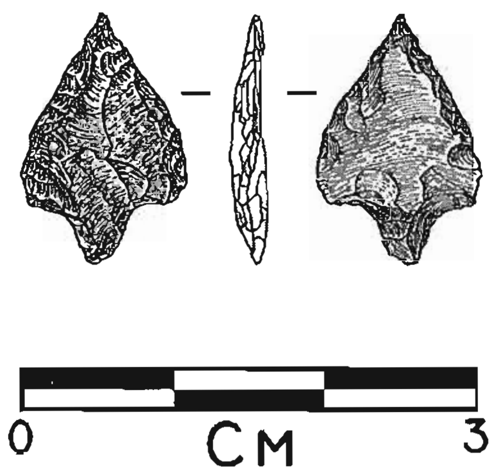
Specimen #27

CA-TRI-942
UNIT 1, LEVEL 5
OBSIDIAN

C J BACKES

Figure 32

200%



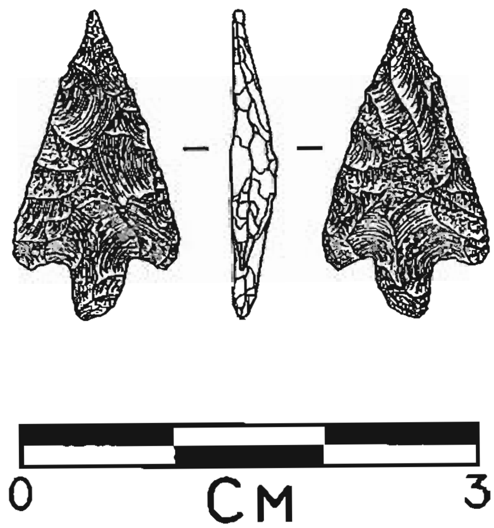
Specimen #29

CA-TRI-942
UNIT I, LEVEL 6
OBSIDIAN

C J BACKES

Figure 33

200%



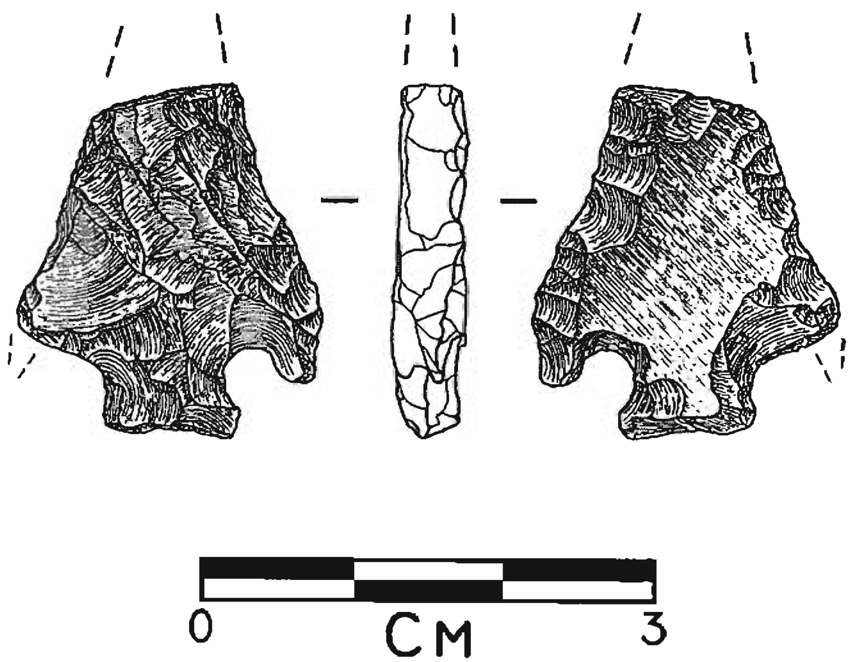
Specimen #34

CA-TRI-942
UNIT I, LEVEL 10
OBSIDIAN

C J BACKES

Figure 34

200%



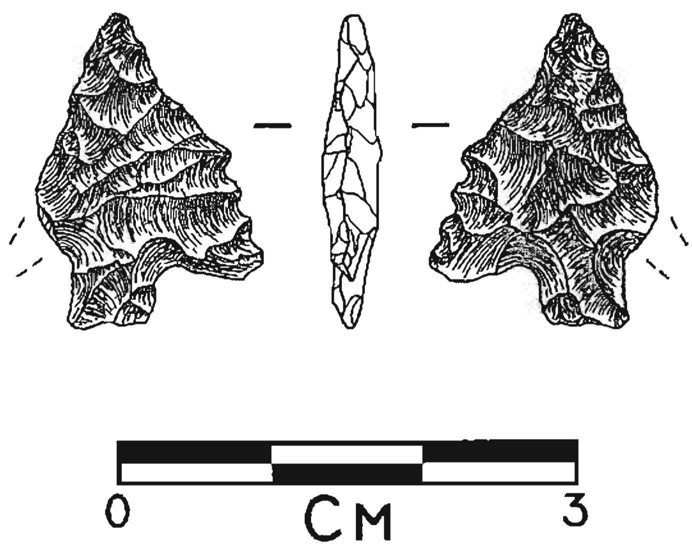
Specimen #64

CA-TRI-942
UNIT I, LEVEL 10
OBSIDIAN

C J BACKES

Figure 35

200%



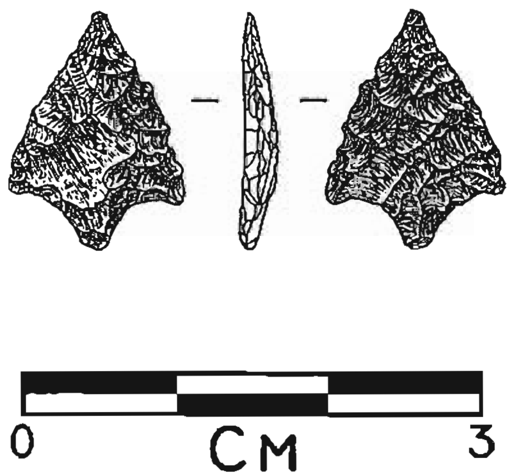
Specimen #39

CA-TRI-942
UNIT 2, LEVEL 3
OBSIDIAN

C J BACKES

Figure 36

200%



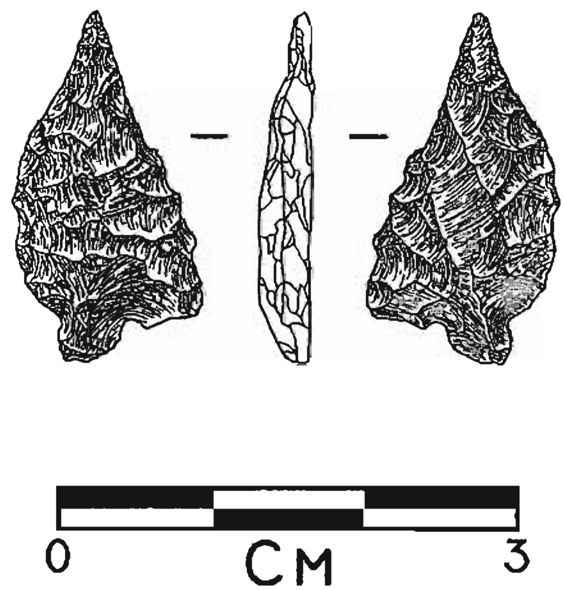
Specimen #40

CA-TRI-942
UNIT 2, LEVEL 6
OBSIDIAN

C J BACKES

Figure 37

200%



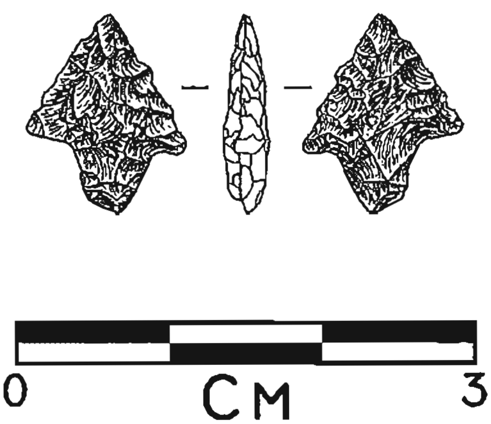
Specimen #43

CA-TRI-942
UNIT 3, LEVEL 2
OBSIDIAN

C J BACKES

Figure 38

200%



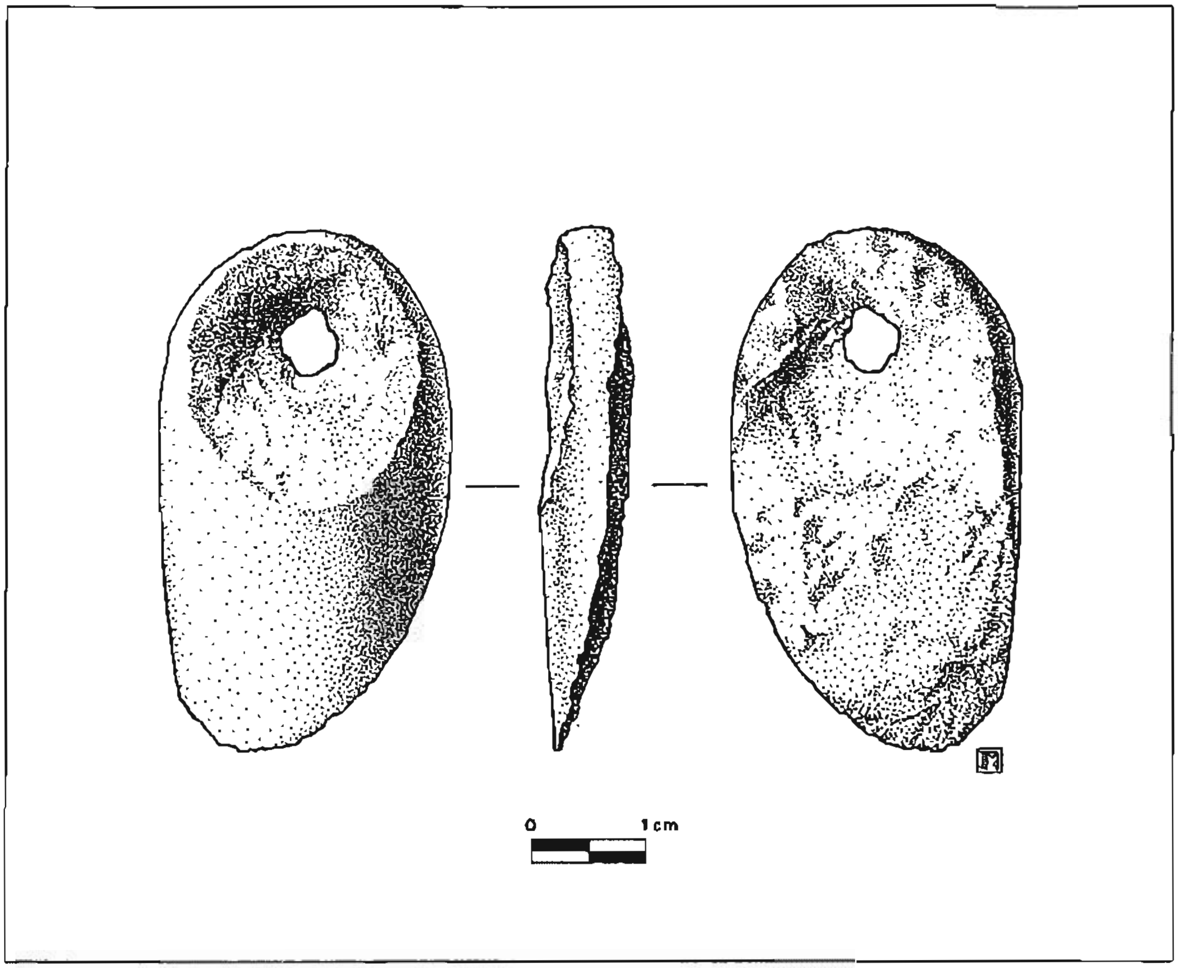
Specimen #48

CA-TRI-942
UNIT 3, LEVEL 5
OBSIDIAN

C J BACKES

Figure 39

200%

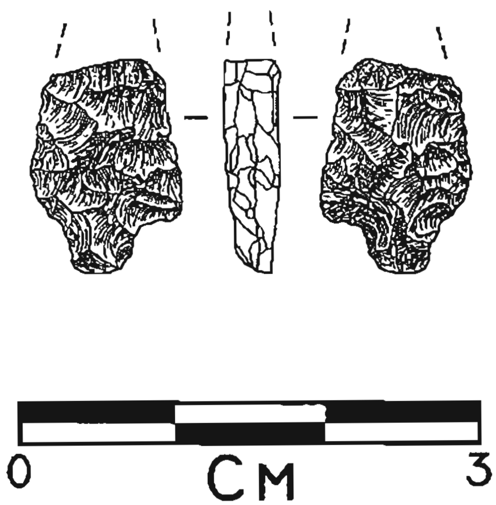


SPLIT PEBBLE PENDANT, UNIT 3, LEVEL 8, CA-TRI-942

Illustration by John Mc Cammon, 1993

Specimen #51

Figure 40



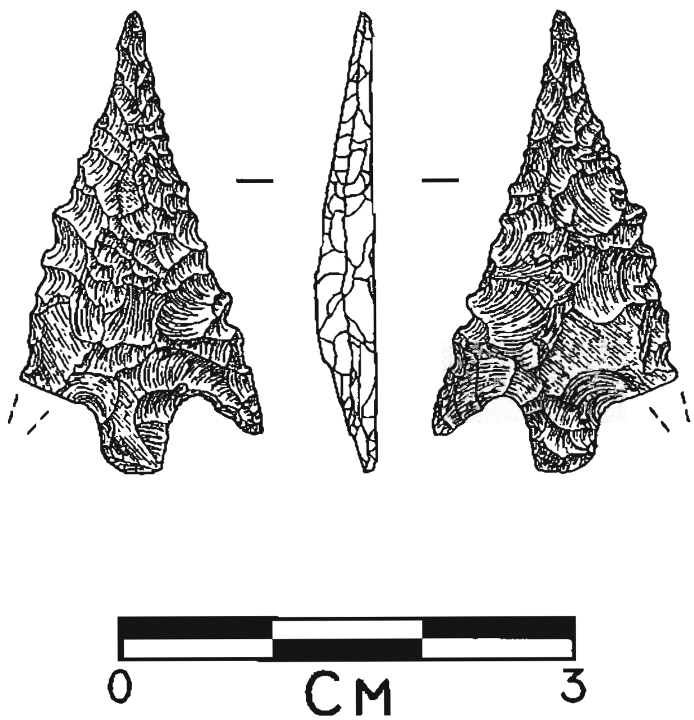
Specimen #49

CA-TRI-942
UNIT 3, LEVEL 9
OBSIDIAN

C J BACKES

Figure 41

200%



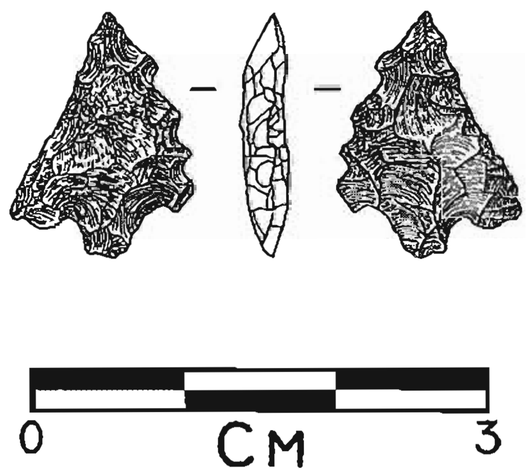
Specimen #52

CA-TRI-942
UNIT 4, CLEAN-UP
OBSIDIAN

C J BACKES

Figure 42

200%



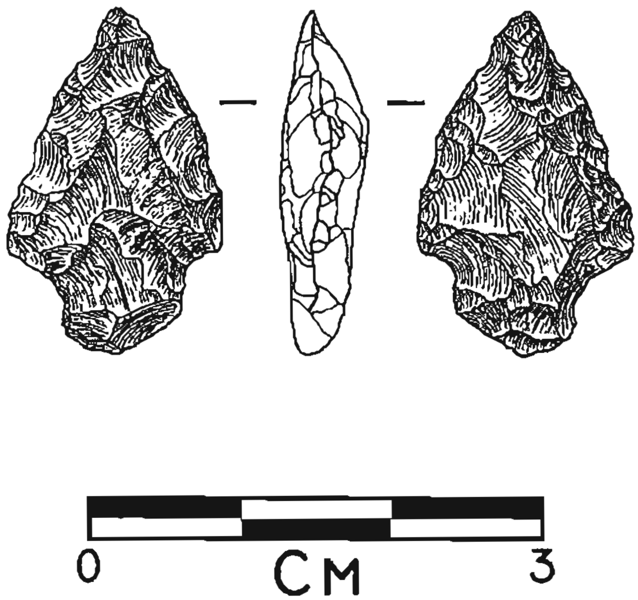
Specimen #53

CA-TRI-942
UNIT 4, CLEAN-UP
OBSIDIAN

C J BACKES

Figure 43

200%



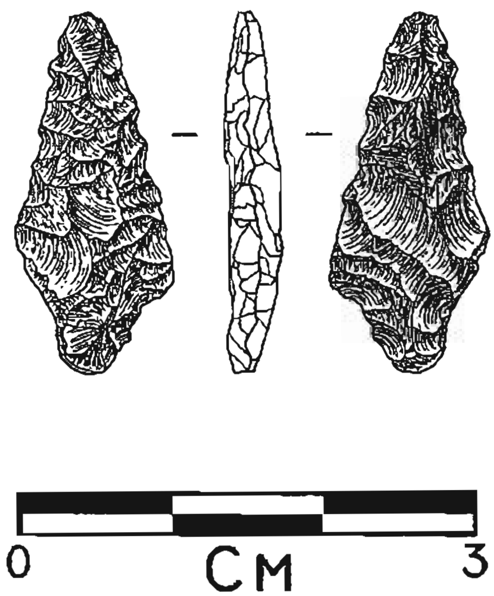
Specimen #57

CA-TRI-942
UNIT 5, LEVEL 3
OBSIDIAN

C J BACKES

Figure 44

200%



Specimen #60

CA-TRI-942
UNIT 5, LEVEL 6
OBSIDIAN

C J BACKES

Figure 45

200%

Figure 46: CA-TRI-942, Surface, Miscellaneous Specimens (obsidian):

[Upper row, left to right]:

#13, utilized flake
#1, possible Trinity stemmed projectile point fragment
#S-5 (extra), perforator

[Lower row, left to right]:

#3, Trinity side-notched point proximal fragment
#S-46, possible projectile point, cf. McKee uniface
2, projectile point proximal fragment, GS contracting stem

Figure 47: CA-TRI-942, Unit 1 (all obsidian except #65):

[Upper row, left to right]:

#32, projectile point distal fragment (Level 7)
#19, Gunther Contracting Stem projectile point missing distal portion (Level 3)
#65, projectile point distal fragment (Franciscan chert) (Level 3)
#16, projectile point, GS serrated (Level 2)

[Lower row, left to right]:

#33, Trinity corner notched projectile point proximal fragment (Level 10)
#25, projectile point distal fragment (Level 5)
#31, projectile point, distal fragment (Level 6)
#14, Trinity side-notched projectile point (Level 1)

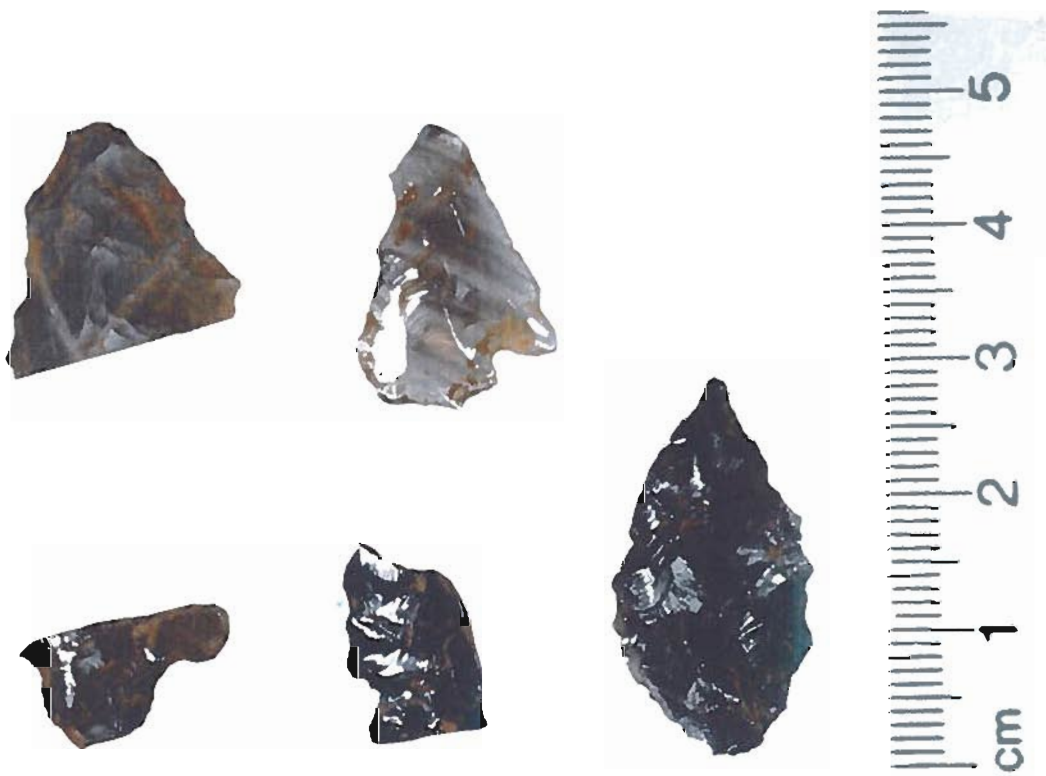


Figure 48: CA-TRI-942, Unit 3, Specimens:

[Upper row, left to right]:

#44, projectile point fragment, GS stemmed base (Level 3)
#45, projectile point proximal fragment, corner notched (Level 4)

[Lower row, left to right]:

#47, projectile point, contracting stem (Level 5)
#46, projectile point proximal fragment (Level 4)
#50, projectile point, cf. Trinity Diamond Shaped (Level 4)

Figure 49: CA-TRI-942, Units 4 and 5, Specimens:

[Left two specimens, Unit 4, left to right]

#87, projectile point midsection (Level 4)
#85, projectile point distal fragment (Level 8)

[Right two specimens, Unit 5, left to right]:

#59, utilized flake (Level 5)
#56, projectile point distal fragment (Level 2)

Figure 50: CA-TRI-942, Unit 4, Level 2: Faunal remains, miscellaneous bone fragments; note calcined and charred bone.

Figure 51: CA-TRI-942, Unit 4, Level 4, miscellaneous bone fragments; the fragment at the top of the picture is one of the largest bone fragments found.

Figure 52: CA-TRI-942, Unit 4, Miscellaneous debitage: Sample of small and microdebitage, no specific provenience given. All of these flakes are attributed to the Grasshopper Flat/Lost Iron Well/Red Switchback geochemical source.

Figure 53: CA-TRI-942, Unit 4, Miscellaneous debitage: Sample of largest debitage, no specific provenience given. All of these flakes are attributed to the Grasshopper Flat/Lost Iron Well/Red Switchback geochemical source.

Figure 54: CA-TRI-942, Unit 4, Miscellaneous debitage: Sample of larger debitage, no specific provenience. Upper row, left to right: Three obsidian flakes attributed to a Tuscan source. Lower Row, left to right: Four flakes attributed to the GF/LIW/RS geochemical source.

Figure 55: CA-TRI-942, Unit 1, L-3: Hand sample of steatite. Note vesicular ("vug") appearance.

Figure 56: CA-TRI-942; Unit 5, L-1, #88: Upper, chopper, made on meta-chert; lower, view showing abraded hand grip edge along the upper edge.

Figure 57: Unit 3, L-6, #80:
Possible pestle.

Figure 58: Unit 3, L-9, #81:
Pestle fragment.

Figure 59: CA-TRI-942: #S-11 (surface), Chopper/battered cobble.

Figure 60: CA-TRI-942: Unit 2, L-7, #77, Core.

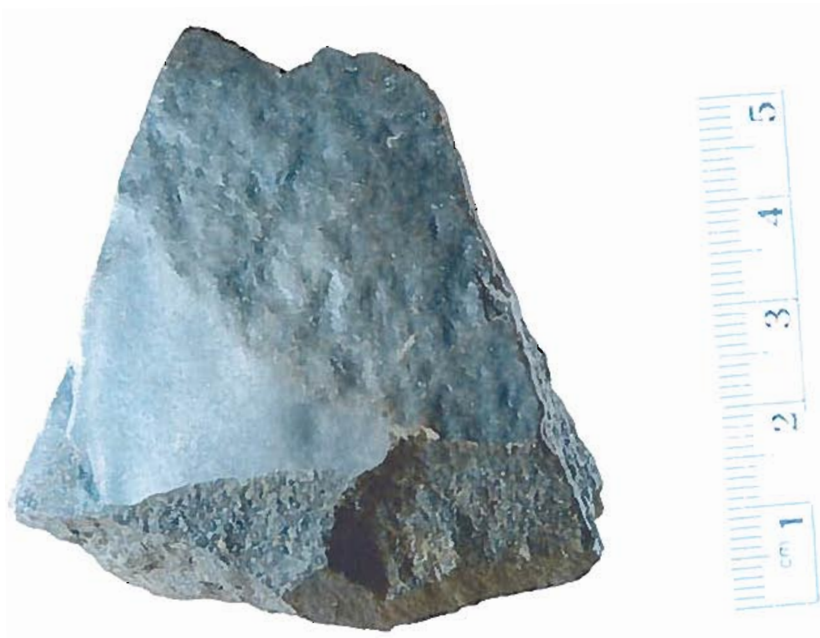


Figure 61: CA-TRI-942, Surface, #S-43, Core

Figure 62: CA-TRI-942, Surface, #S-37: Core.

Figure 63: CA-TRI-942: Unit 2, L-1, #75, Hammerstone

Figure 64: Unit 5, L-5, #92: Acorn cracker, hammerstone.

Figure 65: CA-TRI-942: Unit 5, L-2, #89: Upper: Handstone, lower: lateral view.

Figure 66: CA-TRI-942: Unit 1, L-4, #38: Utilized flake; lower photograph, close-up utilized edge.

Figure 67: CA-TRI-942, view west showing terrain on Browns Mountain, Trinity County, CA (BD, 1993).

(Photo Credits: BD, Brian Dillon; DF, Dan Foster; EG, E. Greathouse; ER, Eric Ritter.)

Figure 68: CA-TRI-942, view west showing terrain in the vicinity of site (BD, 1993).

Figure 79: CA-TRI-942, view north showing Unit 1, L-3, excavation in progress; note numerous rocks in situ (BD, 1993).

Figure 80: View north, Unit 1, L-14, conclusion of excavation (BD, 1993).

Figure 81: CA-TRI-942, view north showing Unit 5 (BD, 1993).

Figure 82: View north showing Unit 4, L-12; note red sediment underlying anthropically-affected superincumbent deposit (BD, 1993).

Figure 83: CA-TRI-942, view west vertical, showing surface of steatite outcrop exhibiting cupules (DF, 1993).

Figure 84: CA-TRI-942, view west, showing surface of steatite outcrop exhibiting cupules, coins placed in cupules (DF, 1993).

Figure 85: CA-TRI-942, view west, showing surface of steatite outcrop exhibiting cupules, center, above briefcase; note old CDF logo on Foster's briefcase (DF, 1983).

Figure 86: CA-TRI-942, steatite outcrop, showing vertical face cut with metal saw, with inscribed initials "JEL" (DF, 1983).

Figure 87: CA-TRI-942, steatite outcrop, showing vertical face cut with metal saw, with inscribed initials "WPM" (DF, 1983).

Figure 88: CA-TRI-942, steatite outcrop, showing vertical face cut with metal saw, with inscribed initials "AA" and inscribed date "1906" (DF, 1983).

Figure 89: CA-TRI-942, view west showing petroglyph locus on steatite outcrop, cupules having been removed by sawing (compare Figure 83, taken from the same angle) (BD, 1993).

Figure 90: CA-TRI-942, view east showing petroglyph locus on steatite outcrop, cupules having been removed by sawing; note depth of saw cuts (BD, 1993).

Figure 91: CA-TRI-942, showing archaeologist Don McGeein excavating Unit 1 (BD, 1993).

Figure 92: CA-TRI-942, showing hydrosieve operations in progress; Pat Dunning, left; Jeff Hamilton, right. (BD, 1993).

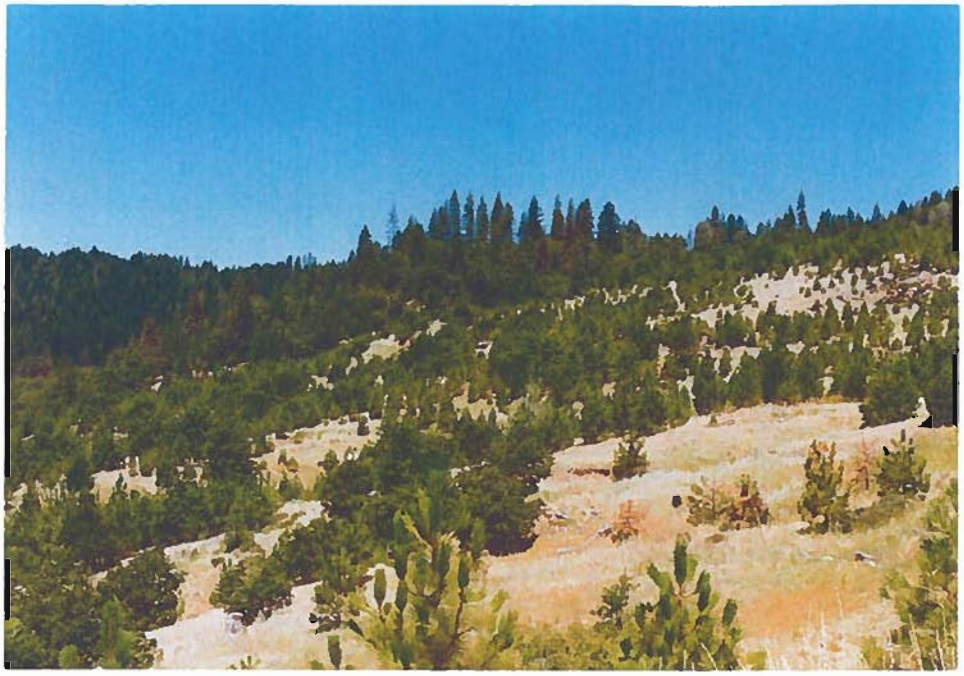
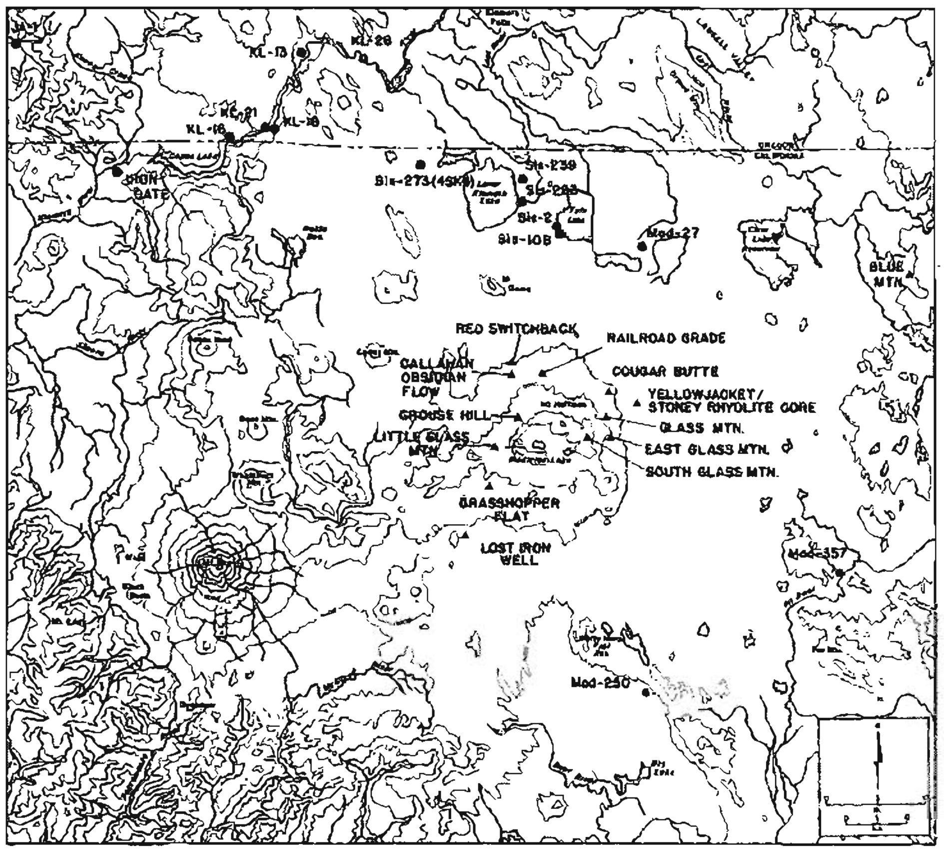


Figure 95: CA-TRI-942, general view of terrain near site; note regenerated conifers, background (BD, 1993).

Figure 96: CA-TRI-942, view showing canyon drained by the Trinity River; note steep terrain; Dan Foster assisting in grid layout, left (BD, 1993).



Map 8. Obsidian source localities (filled triangles) and selected archaeological sites in northeastern California and southern Oregon.

Figure 97: Map of Obsidian Source Localities (after Hughes 1986:284, Map 8).

Figure 98: View northwest showing Dr. Napton, Bob Taylor and Tom Walz at CA-TRI-942 (EG, 2010).

Figure 99: View east, cutbank exposure along CA-TRI-942 (EG, 2010).

Figure 100: View west, cutbank exposure along CA-TRI-942 (EG, 2010).

Figure 101: View north showing stratigraphic profile display at Unit 4 (EG, 2010).

Figure 102: View north showing probable location of Unit 1 (EG, 2010).

Figure 103: View south showing Unit 3, Unit 1, background (EG, 2010).

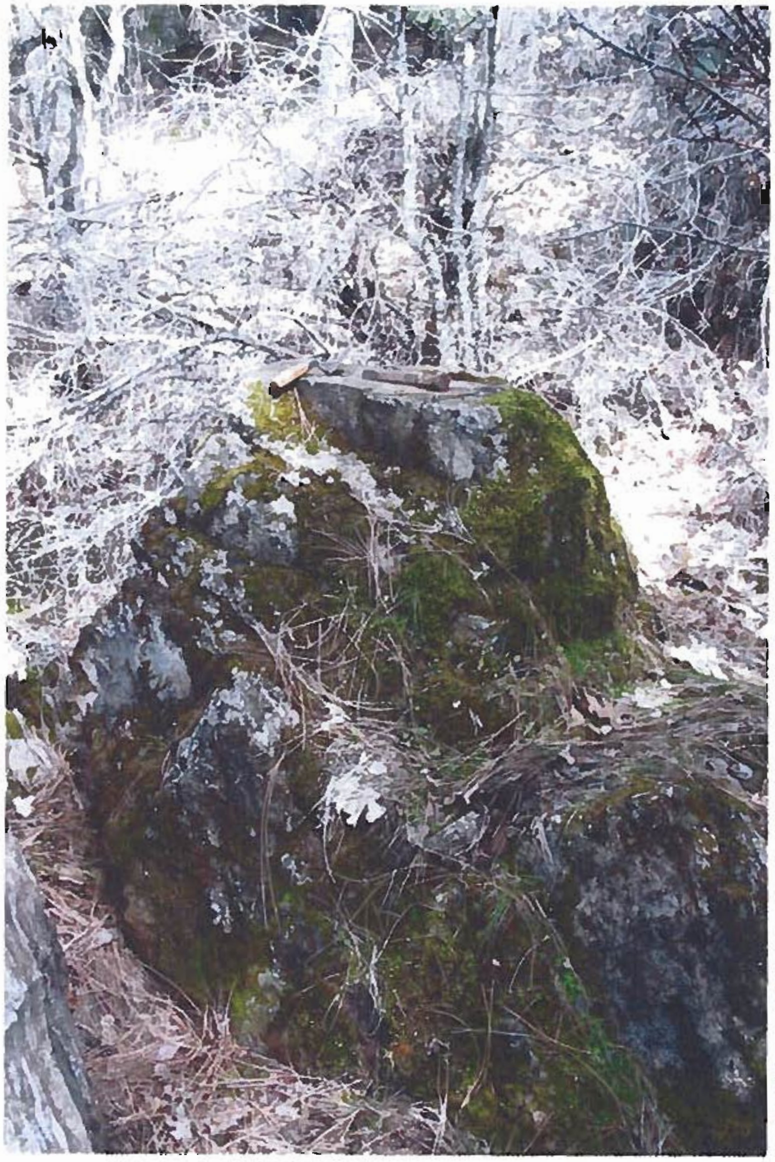


Figure 104: Steatite outcrop that formerly contained petroglyphs (EG, 2010).

Figure 105: Dr. Napton photographs steatite boulder (EG, 2010).

Figure 106: View showing top of steatite boulder, petroglyphs features having been removed by persons unknown (EG, 2010).

Figure 107: View showing "WPM" inscription on the side of the steatite boulder (EG, 2010).

Figure 108: View showing steatite boulder (2010).

Figure 109: View showing rail spike and vandal saw cut in top of steatite boulder (2010).

Figure 110: View north, profile, Unit 4 (EG, 2010).

Figure 111: Meter-rod indicates location of conical pestle (EG, 2010).

Figure 112: View showing conical pestle observed April 8, 2010 (centimeter scale).

Figure 113: Lateral view of conical pestle (centimeter scale).

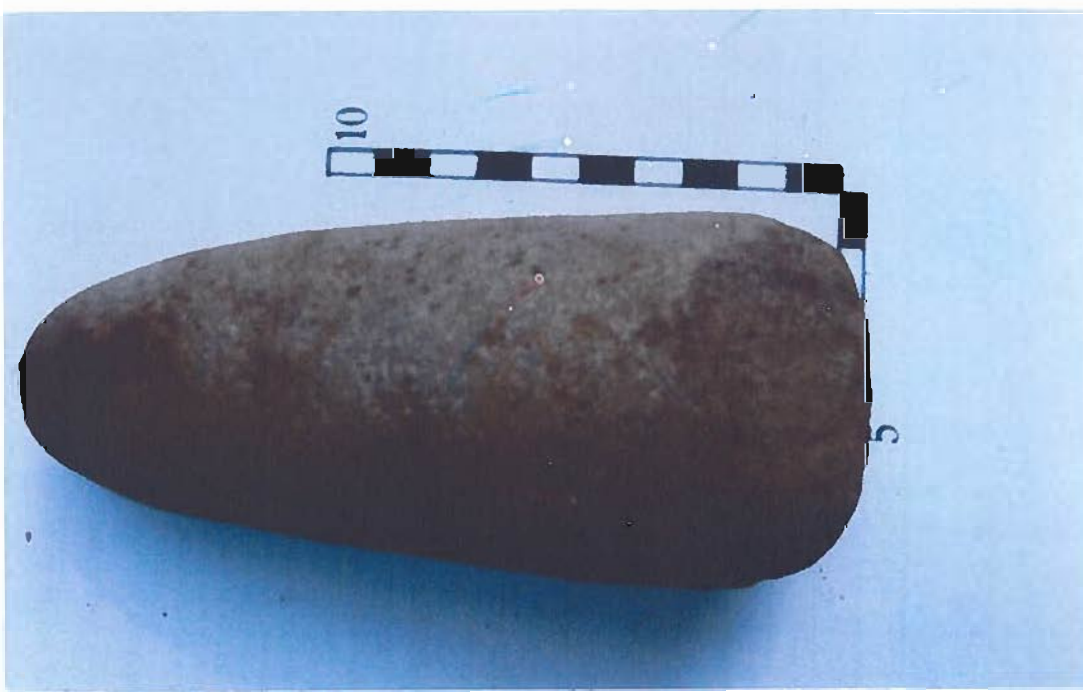


Figure 114: View east showing spring (left) and CA-TRI-942, background (EG, 2010).

Figure 115: View showing cobbles from the Weaverville formation (EG, 2010).

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Appendix A:

Specimen Catalog P-53-000942/CA-TRI-942
(includes 1983 surface specimens)

P-53-000942/CA-TRI-942 1993 Surface Specimens

Results of Debitage Analysis

Bone Fragments

Munsell Soil Colors

Specimen Catalog
P-53-000942/CA-TRI-942

No.	Unit	Level	Depth	Type	Classification	Material	L (cm)	W (cm)	TH (cm)	WT (g)	Illustrated
1	Surface	N/A	N/A	Pp	Trinity Stemmed fragment	O/GF/LIW/RS	2.70	1.80	0.50	1.80	Fig. 46
2	Surface	N/A	N/A	Pp	GS Contracting Stem	O/T	2.10	1.60	0.30	0.70	Fig. 46
3	Surface	N/A	N/A	Pp	Trinity side-notched proximal	O/GF/LIW/RS	0.60	1.20	0.20	0.10	Fig. 46
4	Surface	N/A	N/A	Pp	Midsection	O/GF/LIW/RS	1.00	0.85	0.20	0.20	
5	Surface	N/A	N/A	Pp	GS Expanding Stem	O/GF/LIW/RS	1.50	0.90	0.15	0.10	Fig. 16
6	Surface	N/A	N/A	Pp	GS Contracting Stem	O/GF/LIW/RS	1.75	0.90	0.30	0.20	Fig. 17
7	Surface	N/A	N/A	Pp	GS Contracting Stem	C	2.50	1.50	0.35	0.70	Fig. 18
8	Surface	N/A	N/A	Pp	GS Barbed Serrated	C	1.80	2.00	0.45	0.80	Fig. 19
9	Surface	N/A	N/A	D	Drill	B	2.95	2.30	0.50	2.90	Fig. 20
10	Surface	N/A	N/A	Pp	Trinity Diamond Shaped	O/GF/LIW/RS	4.00	2.95	0.80	4.80	Fig. 21
11	Surface	N/A	N/A	Pp	GS Barbed	O/GF/LIW/RS	2.80	2.10	0.30	1.30	Fig. 22
12	Surface	N/A	N/A	Bd	Shell Fragment	Shell	1.20	1.00	0.20	0.50	
13	Surface	N/A	N/A	UB	Utilized blade	O/GF/LIW/RS	5.20	1.50	1.30	8.80	Fig. 46
14	1	1	0-10 cm	Pp	Trinity Side Notched	O/GF/LIW/RS	2.05	1.35	0.30	0.40	Fig. 23
15	1	2	10-20 cm	Pp	Basal fragment	O/GF/LIW/RS	1.00	1.0	0.25	0.40	
16	1	2	10-20 cm	Pp	GS Serrated fragment	O/GF/LIW/RS	1.65	1.35	0.30	0.60	Fig. 47
17	1	2	10-20 cm	Pp	GS Barbed Contracting Stem	O/GF/LIW/RS	2.20	1.90	0.35	0.80	Fig. 25
18	1	3	20-30 cm	Pp	GS Serrated Contracting Stem	O/GF/LIW/RS	2.40	1.20	0.25	0.60	Fig. 26
19	1	3	20-30 cm	Pp	Fragment, GS Contracting Stem	O/GF/LIW/RS	1.80	1.70	0.30	0.90	Fig. 47
20	1	3	20-30 cm	Pp	Trinity Diamond	O	2.02	1.20	0.50	1.20	Fig. 27
21	1	4	30-40 cm	Pp	GS Contracting Stem	O/GF/LIW/RS	1.70	0.95	0.15	0.30	Fig. 28
22	1	4	30-40 cm	Pp	GS Contracting Stem	O/GF/LIW/RS	1.60	1.10	0.30	0.70	Fig. 29
23	1	4	30-40 cm	Pp	Trinity Diamond Shaped	O	2.75	1.40	0.55	1.90	Fig. 30
24	1	5	40-50 cm	Pp	Distal fragment	O/GF/LIW/RS	1.20	0.55	0.15	0.10	
25	1	5	40-50 cm	Pp	Distal fragment	O/GF/LIW/RS	1.40	1.30	0.40	0.60	Fig. 47
26	1	5	40-50 cm	Pp	GS Contracting Stem basal fragment	O/GF/LIW/RS	1.85	1.70	0.50	1.70	Fig. 31
27	1	5	40-50 cm	Pp	Midsection	O/GF/LIW/RS	1.65	1.20	0.45	1.00	Fig. 32
28	1	6	50-60 cm	Pp	Midsection	O/GF/LIW/RS	1.20	1.00	0.20	0.40	
29	1	6	50-60 cm	Pp	GS Contracting Stem	O/GF/LIW/RS	1.65	1.10	0.20	0.40	Fig. 33
30	1	6	50-60 cm	Pp	Midsection	O/GF/LIW/RS	1.20	1.30	0.40	0.50	
31	1	6	50-60 cm	Pp	Distal fragment	O/GF/LIW/RS	1.89	1.20	0.80	1.10	Fig. 47
32	1	7	60-70 cm	Pp	Distal fragment	O/GF/LIW/RS	1.60	1.60	0.35	0.70	Fig. 19
33	1	10	90-100 cm	Pp	Trinity Corner notched fragment	O/T	1.40	1.70	0.40	0.80	Fig. 47

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No.	Unit	Level	Depth	Type	Classification	Material	L (cm)	W (cm)	TH (cm)	WT (g)	Illustrated
34	1	10	90-100 cm	Pp	GS Contracting Stem	O/GF/LIW/RS	2.00	1.10	0.30	0.20	Fig. 34
35	1	1	0-10 cm	SS	Shaft Smoother	Granitic	4.20	4.10	1.50	33.50	Fig. 24
36	1	8	70-80 cm	UF	Utilized flake	C	4.10	3.00	1.10	16.10	
37	1	9	80-90 cm	UF	Utilized flake	O/GF/LIW/RS	2.00	0.80	0.50	0.80	
38	1	4	30-40 cm	UF	Utilized flake	C	7.20	3.10	1.70	46.80	Fig. 66
39	2	3	20-30 cm	Pp	GS Expanding Stem fragment	O/GF/LIW/RS	2.00	1.50	0.40	0.90	Fig. 36
40	2	6	50-60 cm	Pp	GS Contracting Stem	O/GF/LIW/RS	1.60	1.10	0.20	0.20	Fig. 37
41	2	7	60-70 cm	Pp	Corner Notched proximal	O/T	0.70	1.35	0.40	0.15	
42	3	1	0-10 cm	Pp	Expanding Stem	O/GF/LIW/RS	2.10	0.70	0.60	0.30	
43	3	2	10-20 cm	Pp	GS Contracting Stem	O/GF/LIW/RS	2.35	1.20	0.31	0.70	Fig. 38
44	3	3	20-30 cm	Pp	GS Stemmed Base	C	1.70	1.90	0.55	0.90	Fig. 48
45	3	4	30-40 cm	Pp	Corner Notched	O/GF/LIW/RS	2.05	1.40	0.30	0.60	Fig. 48
46	3	4	30-40 cm	Pp	Proximal fragment	O/T	1.20	0.95	0.35	0.20	Fig. 48
47	3	5	40-50 cm	Pp	Contracting Stem	O/GF/LIW/RS	0.85	1.55	0.35	0.20	Fig. 48
48	3	5	40-50 cm	Pp	GS Contracting Stem	O/GF/LIW/RS	1.30	1.10	0.30	0.10	Fig. 39
49	3	9	80-90 cm	Pp	GS Stemmed	O/GF/LIW/RS	1.45	1.00	0.35	0.50	Fig. 41
50	3	4	30-40 cm	Pp	Trinity Diamond Shaped	O/GF/LIW/RS	2.70	1.40	0.30	1.60	Fig. 48
51	3	8	70-80 cm	P	Pendant	M	4.50	2.50	0.50	10.30	Fig. 40
52	4	N/A	N/A	Pp	GS Serrated Contracting Stem	O/GF/LIW/RS	3.10	1.55	0.35	1.10	Fig. 42
53	4	N/A	N/A	Pp	GS Serrated Contracting Stem	O/GF/LIW/RS	1.60	1.20	0.30	0.40	Fig. 43
54	4	N/A	N/A	Pp	Proximal fragment	O/GF/LIW/RS	1.30	0.80	0.10	0.30	
55	5	1	0-10 cm	D	Distal fragment	O/GF/LIW/RS	0.90	1.10	0.25	0.20	
56	5	2	10-20 cm	Pp	Distal fragment	O/GF/LIW/RS	2.00	0.80	0.20	0.10	Fig. 49
57	5	3	20-30 cm	Pp	GS Expanding Stem	O/GF/LIW/RS	2.30	1.45	0.55	1.70	Fig. 44
58	5	4	30-40 cm	Pp	Midsection	O/GF/LIW/RS	1.20	1.60	0.40	0.90	
59	5	5	40-50 cm	UF	Utilized flake	O/GF/LIW/RS	2.30	0.85	0.40	0.80	Fig. 49
60	5	6	50-60 cm	Pp	GS Contracting Stem	O/GF/LIW/RS	2.40	1.10	0.35	0.50	Fig. 45
61	5	2	10-20 cm	Pp	Distal fragment	O/GF/LIW/RS	0.90	0.30	0.20	0.10	
62	5	9	80-90 cm	Pp	GS Contracting Stem	O/GF/LIW/RS	1.50	0.90	0.20	0.60	
63	Surface	N/A	N/A	B	Fragment	O/GF/LIW/RS	2.50	1.70	0.80	3.80	
64	1	10	90-100 cm	Pp	GS Barbed fragment	O/GF/LIW/RS	2.20	2.00	0.25	1.90	Fig. 35
65	1	3	20-30 cm	Pp	Distal fragment	C	1.70	1.50	0.50	1.10	Fig. 47
66	4	N/A	N/A	Pp	Midsection	O/T	0.80	0.80	0.10	0.20	

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No.	Unit	Level	Depth	Type	Classification	L (cm)	W (cm)	TH (cm)	WT (g)	Illustrated	
67	4	N/A	N/A	UF	Utilized flake	O/GF/LIW/RS	3.10	1.90	0.50	3.60	
68	4	N/A	N/A	P	Pestle fragment	M	11.40	4.00	3.00	220.00	
69	1	1	0-10 cm	MI	Fragment	Granitic	4.10	2.80	3.30	85.00	
70	1	2	20-20 cm	H	Fragment	Granitic	6.76	3.53	3.85	68.90	
71	1	1	0-10 cm	MI	Fragment	Gabbro	4.40	3.53	4.10	115.10	
72	1	3	20-30 cm	UF	Utilized flake	Chert	5.51	3.85	1.14	36.20	
73	1	10	90-100 cm	UF	Utilized flake	O	3.02	2.18	0.41	2.00	
74	1	3	20-30 cm	H	Fragment	Granitic	4.00	3.80	4.00	84.70	
75	2	1	0-10 cm	HS	Hammerstone	Granitic	8.60	7.60	4.50	462.00	Fig. 63
76	2	7	60-70 cm	MB	Millingbase fragment	Granitic	10.40	5.80	4.80	400.00	
77	2	7	60-70 cm	C	Core	Chert	8.40	6.10	4.80	382.00	Fig. 60
78	2	8	70-80 cm	MB	Millingbase fragment	Granitic	10.60	4.40	4.00	368.00	
79	3	3	20-30 cm	MI	Fragment	M	6.40	4.20	3.20	104.30	
80	3	6	50-60 cm	Pestle	Pestle	M	15.00	6.00	1.90	393.00	Fig. 57
81	3	9	80-90 cm	Pestle	Pestle	M	14.40	4.70	3.60	406.00	Fig. 58
82	3	9	80-90 cm	Pestle	Fragment	Granitic	5.70	3.70	3.10	114.80	
83	3	9	80-90 cm	MI	Fragment	M	7.40	5.70	5.20	254.00	
84	4	3	20-30 cm	H	Handstone fragment	M	7.50	4.90	2.20	112.30	
85	4	8	70-80 cm	Pp	Distal fragment	O/GF/LIW/RS	0.80	0.80	0.20	0.10	Fig. 49
86	4	11	100-110 cm	UF	Utilized flake	O/GF/LIW/RS	2.70	1.10	0.80	1.10	
87	4	4	30-40 CM	Pp	Midsection	O/GF/LIW/RS	1.50	1.30	0.30	0.80	Fig. 49
88	5	1	0-10 cm	CH	Chopper/Core	Meta-chert	8.74	8.12	3.22	525.00	Fig. 56
89	5	2	10-20 cm	H	Handstone	M	8.01	8.12	3.85	448.00	Fig. 65
90	5	3	20-30 cm	P	Pestle fragment	Gabbro	5.41	4.47	3.53	190.00	
91	5	3	20-30 cm	MI	Milling implement fragment	M	5.72	5.10	3.54	149.70	
92	5	5	40-50 cm	AC	Acorn cracker	Granitic	6.70	6.10	2.50	203.90	Fig. 64
93	1	10	90-100 cm	UB	Utilized flake	O/T	2.70	1.00	0.20	0.90	
94	2	5	40-50 cm	UF	Unifacial, serrated	O/T	2.55	0.80	0.25	0.70	
95	2	9	80-90 cm	UF	Utilized flake	O/GF/LIW/RS	2.70	1.50	0.40	2.20	
96	3	1	0-10 cm	Pp	cf. Trinity Side Notched	O/GF/LIW/RS	1.50	1.30	0.20	0.50	
97	3	9	80-90 cm	UF	Utilized flake	C	2.30	1.30	0.60	3.70	

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1993 Surface Specimens (2009 Catalog)

1993 Surface #	Type	Condition	Material	Obsidian/Tuscan	L (cm)	W (cm)	TH (cm)	WT (g)
S-				or Grasshopper Flat				
1	Interior flake	C	Obsidian	Tuscan	1.2	0.8	0.2	1.4
2	Utilized flake	C	Obsidian	Grasshopper Flat	1.5	0.8	0.2	0.3
3	Utilized flake	C	Obsidian	Tuscan	1.4	1.1	0.2	0.5
4	Utilized flake	C	Obsidian	Grasshopper Flat	1.5	0.9	0.1	0.1
5	Interior flake	C	Obsidian	Grasshopper Flat	0.9	0.7	0.1	0.1
6	Interior flake	C	Obsidian	Grasshopper Flat	2.4	1.4	0.5	1.4
7	Milling implement	F	Metamorphic	NA	5.2	3.7	3.4	92.0
8	Interior flake	C	Obsidian	Grasshopper Flat	1.5	1.0	0.4	5.8
9	Interior flakes (2)	C	Obsidian	Grasshopper Flat	< 1.0 cm			
10	Interior flake	C	Obsidian	Tuscan	1.7	1.2	0.5	0.9
11	Chopper	C	Chert	NA	15.0	9.0	4.5	992.0
12	Possible handstone	F	Granitic	NA	9.1	4.5	2.1	152.0
13	Interior flake	C	Obsidian	Grasshopper Flat	1.7	1.1	0.3	6.5
14	Milling implement	F	Granitic	NA	9.4	5.9	4.6	270.0
15	Interior flakes (2)	C	Obsidian	Grasshopper Flat	<1.0 cm			
16	Possible handstone	F	Granitic	NA	8.9	6.9	2.8	240
17	Interior flake	C	Obsidian	Tuscan	1.5	1.2	0.1	0.2
18	Interior flake	C	Obsidian	Tuscan	2.0	1.3	0.3	2.3
19	Fire-cracked rock (2)	F	Country rock	NA	-	-	-	550.0
20	Fire-cracked rock	F	Country rock	NA	3.9	3.0	2.3	32.0
21	Fire-cracked rock	F	Country rock	NA	4.0	2.2	1.7	12.0
22	Interior flakes (2)	C	Obsidian	1 T and 1 GF	1.5/0.7	1.1/0.6	0.1/0.1	0.3/0.1
23	Milling implement	F	Granitic	NA	7.3	4.1	0.3	124.0
24	Interior flake	C	Basalt	NA	6.9	4.4	2.0	60.0
25	Handstone	F	Granitic	NA	14.0	6.5	3.7	556.0
26	Interior flake	C	Obsidian	Grasshopper Flat	1.1	1.1	0.2	4.4
27	Milling implement	F	Granitic	NA	7.6	4.5	3.8	132.0
28	Milling implement	F	Granitic	NA	7.0	2.8	3.5	98.0
29	Interior flake	C	Obsidian	Grasshopper Flat	2.0	1.5	0.4	1.4
30	Secondary cortex flake	C	Obsidian	Grasshopper Flat	1.9	1.5	0.2	0.8
31a	Interior flake	C	Obsidian	Grasshopper Flat	1.0	0.9	0.1	0.1
31b	Milling implement	F	Granitic	NA	6.0	5.8	3.2	240.0

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1993 Surface Specimens (2009 Catalog)

1993 Surface #	Type	Condition	Material	Obsidian/Tuscan	L (cm)	W (cm)	TH (cm)	WT (g)
S-				or Grasshopper Flat				
32	Interior flake	C	Obsidian	Grasshopper Flat	1.5	0.5	0.2	0.1
33	Interior flake	C	Obsidian	Grasshopper Flat	1.2	0.6	0.2	0.1
34	Biface thinning flake	C	Obsidian	Grasshopper Flat	0.7	0.6	0.1	0.1
35	Shell	F	Shell	NA	0.6	0.6	0.3	0.1
36	Milling implement	F	Metamorphic	NA	9.5	6.4	4.1	392.0
37	Core	C	Basalt	NA	9.0	7.0	5.2	414.0
38	Milling implement	F	Granitic	NA	9.0	9.7	3.3	496.0
39	Milling implement	F	Granitic	NA	9.0	5.0	4.8	262.0
40	Milling implement	F	Granitic	NA	9.0	6.4	4.5	460.0
41	Fire-cracked rock	F	Country rock	NA	8.3	4.6	2.0	182.0
42	Fire-cracked rock	F	Country rock	NA	8.0	6.5	2.8	244.0
43	Pebble core	C	Metamorphic	NA	7.0	6.9	4.2	302.0
44	Biface thinning flake	C	Obsidian	Grasshopper Flat	1.4	0.9	0.2	0.3
45	Flake/chunk	C	Quartz	NA	3.7	2.2	1.7	18.0
46	Projectile point/McKee?	C	Obsidian	Grasshopper Flat	1.9	1.0	0.3	0.7
47	Interior flake	C	Obsidian	Tuscan	2.0	0.9	0.5	1.1
48	Biface	F	Obsidian	Grasshopper Flat	2.4	1.5	0.9	3.1
49	Biface thinning flake	C	Obsidian	Grasshopper Flat	1.4	1.0	0.2	0.3
50	Milling implement	F	Granitic	NA	11.0	5.1	2.2	222.0
51	Interior flakes (20	C	Obsidian	Grasshopper Flat	<1.0 cm			
52	Fire-cracked rock	F	Country rock	NA	3.3	1.5	0.7	8.2
53	Interior flake	C	Obsidian	Grasshopper Flat	<1.0 cm			
54	missing							
55	Interior flake	C	Obsidian	Grasshopper Flat	1.0	0.6	0.1	0.1
Extra 1	Interior flake	C	Obsidian	Grasshopper Flat	1.6	0.8	0.5	0.1
Extra 2	Country rock	C	Quartz	NA	1.4	1.1	1.0	1.7
Extra 4	Milling implement	F	Granitic	NA	10.5	10.0	4.2	480.0
Extra 5	Perforator	C	Obsidian	Grasshopper Flat	2.1	1.6	0.4	4.1

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Results of Debitage Analysis

	Obsidian	T C	T S	T I	T-Total	GF C	GF S	GF I	GF-Total	Chert C	Chert S	Chert I	Ch-Total	Basalt C	Basalt S	Basalt I	B-Total	Q C	Q S	Q I	Q-Total	Total
Surface	28	0	0	5	5	0	1	22	23	0	0	0	0	0	0	1	1	0	0	0	0	29
Unit 1	Obsidian	T C	T S	T I	T-Total	GF C	GF S	GF I	GF-Total	Chert C	Chert S	Chert I	Ch-Total	Basalt C	Basalt S	Basalt I	B-Total	Q C	Q S	Q I	Q-Total	Total
Level 1	113	4	25	25	54	5	6	48	59	0	2	1	3	0	0	2	2	0	0	0	0	117
Level 2	107	4	5	5	14	3	15	75	93	0	0	8	8	0	0	6	6	0	0	4	4	125
Level 3	166	3	10	50	63	3	11	89	103	0	1	2	3	0	0	13	13	0	0	5	5	124
Level 4	57	1	1	12	14	0	2	41	43	0	4	11	15	0	0	0	0	0	0	1	1	73
Level 5	76	0	2	20	22	0	3	51	54	0	0	15	15	0	0	1	1	0	0	1	1	93
Level 6	90	0	1	24	25	0	1	64	65	0	0	1	1	0	0	5	5	0	0	6	6	102
Level 7	114	0	0	31	31	1	1	81	83	0	0	4	4	0	0	6	6	2	0	4	6	130
Level 8	66	0	0	10	10	0	0	56	56	0	0	3	3	0	0	0	0	0	0	1	1	70
Level 9	83	0	1	55	56	0	0	27	27	0	0	3	3	0	0	0	0	0	0	1	1	87
Level 10	55	0	0	9	9	0	0	46	46	0	0	2	2	0	0	1	1	0	0	0	0	58
Level 11	4	0	0	3	3	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	4
Level 12	2	0	0	0	0	0	0	2	2	0	0	1	1	0	0	0	0	0	0	0	0	3
Level 13	7	0	0	0	0	0	0	7	7	0	0	0	0	0	0	0	0	0	0	0	0	7
Level 14	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	941	12	45	244	301	12	39	589	640	0	7	51	58	0	0	34	34	2	0	23	25	1058
	89%				32%				68%				5%				3%				2%	
Unit 2	Obsidian	T C	T S	T I	T-Total	GF C	GF S	GF I	GF-Total	Chert C	Chert S	Chert I	Ch-Total	Basalt C	Basalt S	Basalt I	B-Total	Q C	Q S	Q I	Q-Total	Total
Level 1	45	1	1	5	7	0	0	38	38	0	1	1	2	0	0	2	2	1	1	12	14	63
Level 2	17	1	0	2	3	0	0	14	14	0	0	1	1	0	0	3	3	0	0	5	5	26
Level 3	27	0	0	4	4	0	1	22	23	0	2	1	3	1	0	1	2	0	0	0	0	32
Level 4	14	0	0	0	0	1	0	13	14	0	0	1	1	0	0	0	0	0	0	0	0	15
Level 5	23	0	1	4	5	0	0	18	18	0	1	1	2	0	0	2	2	0	0	0	0	27
Level 6	16	0	0	0	0	0	0	16	16	0	0	1	1	0	0	0	0	0	0	0	0	17
Level 7	20	0	0	2	2	0	0	18	18	0	0	0	0	0	0	0	0	0	0	1	1	21
Level 8	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Level 9	7	0	0	0	0	0	0	7	7	0	0	0	0	0	0	0	0	0	0	0	0	7
Level 10	6	0	0	0	0	0	0	6	6	0	0	0	0	0	0	1	1	0	0	0	0	7
Total	176	2	2	17	21	1	1	153	155	0	4	6	10	1	0	9	10	1	1	18	20	216
	81%				12%				88%				5%				5%				9%	

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Results of Debitage Analysis

Unit 3	Obsidian	T C	T S	T I	T-Total	GF C	GF S	GF I	GF-Total	Chert C	Chert S	Chert I	Ch-Total	Basalt C	Basalt S	Basalt I	B-Total	Q C	Q S	Q I	Q-Total	Total
Level 1	72	0	1	21	22	0	1	49	50	0	0	1	1	0	0	0	0	0	1	1	2	75
Level 2	141	1	2	45	48	0	3	90	93	0	1	1	2	0	0	0	0	0	0	0	0	143
Level 3	66	1	1	21	23	0	0	43	43	0	0	4	4	0	0	1	1	0	0	2	2	73
Level 4	22	2	0	9	11	0	0	11	11	0	0	0	0	0	0	2	2	0	0	3	3	27
Level 5	28	0	0	7	7	0	2	19	21	0	0	0	0	0	0	0	0	0	0	0	0	28
Level 6	12	0	0	2	2	0	0	10	10	0	2	0	2	0	1	0	1	0	4	1	5	20
Level 7	10	0	2	4	6	0	0	4	4	0	0	1	1	0	0	0	0	0	0	0	0	11
Level 8	50	0	0	22	22	0	0	28	28	0	4	1	5	0	2	0	2	0	0	1	1	58
Level 9	8	0	1	3	4	0	0	4	4	0	0	2	2	0	1	2	3	0	2	1	3	16
Level 10	4	0	1	0	1	0	0	3	3	0	0	0	0	0	0	1	1	0	1	4	5	10
Level 11	1	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2
Total	414	4	4	134	147	0	6	261	267	0	8	10	18	0	4	6	10	0	8	13	21	463
	89%				36%				64%				4%				2%				5%	

Unit 4	Obsidian	T C	T S	T I	T-Total	GF C	GF S	GF I	GF-Total	Chert C	Chert S	Chert I	Ch-Total	Basalt C	Basalt S	Basalt I	B-Total	Q C	Q S	Q I	Q-Total	Total
Level 1	69	0	0	0	0	0	2	67	69	0	0	0	0	0	0	0	0	0	3	1	4	73
Level 2	92	0	1	7	8	0	1	83	84	0	0	36	36	0	0	7	7	0	0	4	4	139
Level 3	86	1	1	1	3	0	18	65	83	0	2	4	6	2	1	1	4	0	13	2	15	111
Level 4	45	0	0	0	0	0	0	45	45	0	0	8	8	0	0	4	4	0	0	0	0	57
Level 5	54	1	0	25	26	0	0	28	28	0	0	4	4	0	0	1	1	0	0	5	5	64
Level 6	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Level 7	31	0	0	4	4	0	0	27	27	0	0	4	4	0	0	0	0	0	0	0	0	35
Level 8	12	0	0	0	0	0	2	10	12	0	1	2	3	0	0	0	0	0	0	1	1	16
Level 9	55	0	0	0	0	0	0	55	55	0	1	9	10	0	35	5	40	0	0	0	0	105
Level 10	60	0	0	7	7	0	0	53	53	0	0	4	4	0	0	0	0	0	0	0	0	64
Level 11	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Level 12	3	0	0	0	0	0	1	2	3	0	0	0	0	0	0	1	1	0	0	2	2	6
Total	509	2	2	44	48	0	24	437	461	0	4	71	75	2	36	19	57	0	16	15	31	672
	75%				9%				91%				12%				8%				5%	

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Results of Debitage Analysis

Unit 5	Obsidian	T C	T S	T I	T-Total	GF C	GF S	GF I	GF-Total	Chert C	Chert S	Chert I	Ch-Total	Basalt C	Basalt S	Basalt I	B-Total	Q C	Q S	Q I	Q-Total	Total
Level 1	35	2	4	8	14	0	1	20	21	2	0	2	4	0	1	3	4	0	0	2	2	44
Level 2	49	0	1	22	23	0	1	25	26	1	0	8	9	0	0	0	0	1	1	2	4	62
Level 3	17	0	0	8	8	0	0	9	9	0	0	5	5	0	0	1	1	0	0	1	1	24
Level 4	17	0	0	9	9	0	0	8	8	0	0	1	1	0	0	1	1	0	0	0	0	19
Level 5	29	0	0	10	10	0	0	19	19	0	0	0	0	0	0	1	1	0	0	3	3	34
Level 6	26	0	0	7	7	0	0	19	19	0	0	1	1	0	0	1	1	0	0	0	0	28
Level 7	4	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Level 8	6	0	0	4	4	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	6
Level 9	4	0	0	0	0	0	0	4	4	0	0	1	1	0	0	0	0	0	0	1	1	6
Total	187	2	5	72	79	0	2	106	108	3	0	18	21	0	1	7	8	1	1	9	11	227
	82%				42%				58%				9%				4%				5%	

TOTAL	Obsidian	T C	T S	T I	T-Total	GF C	GF S	GF I	GF-Total	Chert C	Chert S	Chert I	Ch-Total	Basalt C	Basalt S	Basalt I	B-Total	Q C	Q S	Q I	Q-Total	Total
Surface	28	0	0	5	5	0	1	22	23	0	0	0	0	0	0	1	1	0	0	0	0	29
Unit 1	941	12	45	244	301	12	39	589	640	0	7	51	58	0	0	34	34	2	0	23	25	1058
Unit 2	176	2	2	17	21	1	1	153	155	0	4	6	10	1	0	9	10	1	1	18	20	216
Unit 3	414	4	4	134	147	0	6	261	267	0	8	10	18	0	4	6	10	0	8	13	21	463
Unit 4	509	2	2	44	48	0	24	437	461	0	4	71	75	2	36	19	57	0	16	15	31	672
Unit 5	187	2	5	72	79	0	2	106	108	3	0	18	21	0	1	7	8	1	1	9	11	227
Total	2255	22	58	516	601	13	73	1568	1654	3	23	156	182	3	41	76	120	4	26	78	108	2665
	85%	4%	10%	86%	27%	1%	4%	95%	73%	0%	13%	87%	6%	3%	34%	63%	5%	4%	24%	72%	4%	
	Obs												CH				B				Q	
	2255												182				120				108	
	85%												6%				5%				4%	

P-53-000943/CA-TRI-942
Bone Fragments

Unit 1	C	N-C	T	Unit 2	C	N-C	T	Unit 3	C	N-C	T	Unit 4	C	N-C	T	Unit 5	C	N-C	T	TOTAL
Level 1	22	5	**27**	Level 1	1	0	**1**	Level 1	5	3	**8**	Level 1	18	15	**33**	Level 1	3	0	**3**	***72***
Level 2	7	10	**17**	Level 2	4	0	**4**	Level 2	24	58	**82**	Level 2	76	56	**132**	Level 2	2	1	**3**	***238***
Level 3	11	32	**43**	Level 3	0	0	**0**	Level 3	6	4	**10**	Level 3	14	77	**91**	Level 3	1	0	**1**	***145***
Level 4	18	27	**45**	Level 4	0	0	**0**	Level 4	10	18	**28**	Level 4	35	71	**106**	Level 4	1	1	**2**	***181***
Level 5	15	19	**34**	Level 5	0	0	**0**	Level 5	17	17	**34**	Level 5	4	91	**95**	Level 5	1	7	**8**	***171***
Level 6	31	12	**43**	Level 6	0	0	**0**	Level 6	10	22	**32**	Level 6	0	0	**0**	Level 6	8	7	**15**	***90***
Level 7	70	31	**101**	Level 7	0	0	**0**	Level 7	3	1	**4**	Level 7	0	30	**30**	Level 7	2	0	**2**	***137***
Level 8	16	36	**52**	Level 8	0	0	**0**	Level 8	2	0	**2**	Level 8	9	15	**24**	Level 8	0	0	**0**	***78***
Level 9	34	32	**66**	Level 9	0	0	**0**	Level 9	4	1	**5**	Level 9	26	58	**84**	Level 9	0	0	**0**	***155***
Level 10	19	64	**83**	Level 10	0	6	**6**	Level 10	1	3	**4**					Level 10	0	3	**3**	***96***
Level 11	4	4	**8**					Level 11	3	3	**6**									***14***
Level 12	10	38	**48**																	***48***
Level 13	14	18	**32**																	***32***
Level 14	5	13	**18**																	***18***
Total	276	341	**617**		5	6	**11**		85	130	**215**		182	413	**595**		18	19	**37**	***1475***
TOTALS:																				
C = Calcined			**N-C = Non-Calcined**					**T = Total**												
566			934					1475												
37%			**63%**																	

P-53-000942/CA-TRI-942
Munsell Soil Colors

Unit	Level	Munsell	Color
1	6	5YR 2.5/1	Black
2	1	5YR 4/3	Reddish Brown
2	1	5YR 3/4	Dark Reddish Brown
2	2	5YR 3/4	Dark Reddish Brown
2	3	5YR 3/4	Dark Reddish Brown
2	4	5YR 3/4	Dark Reddish Brown
2	6	5YR 3/4	Dark Reddish Brown
2	7	5YR 2.5/2	Dark Brown
2	8	5YR 2./4	Dark Reddish Brown
2	9	5YR 3/4	Dark Reddish Brown
2	10	5YR 4/6	Yellowish Red
3	1	5YR 3/4	Dark Reddish Brown
3	2	5YR 3/3	Dark Reddish Brown
3	3	5YR 3/4	Dark Reddish Brown
3	4	5YR 3/3	Dark Reddish Brown
3	5	5YR 3/3	Dark Reddish Brown
3	9	5YR 3/2	Dark Reddish Brown
3	10	5YR 3/3	Dark Reddish Brown
4	3	5YR 3/4	Dark Reddish Brown
4	4	5YR 3/4	Dark Reddish Brown
4	9	5YR 3/4	Dark Reddish Brown
5	3	7.5YR 3/4	Dark Brown
Note: Munsell Color assignments derived from soil samples			
retrieved	from soil residue in specimen	bags and screened	
midden.	Soil residue not available for all levels.		

Appendix B:

Pages 124 and 125 from: Du Bois, C., 1935, Wintu Ethnography, *University of California Publications in American Archaeology and Ethnography* 36(1):1-148, Berkeley incised design. Cocoon rattles rare; probably of recent introduction. Deer hoof rattle for adolescents only (see Puberty and Menstrual Observances).

Whistle (pak tilus, i.e., bone flute).—Bird leg bone; *ca.* 4 to 7 inches long; pierced in center; plugged with pine gum; considered a variety of flute by Wintu. Used for dances.

WEAPONS[77]

Armor (yule).—Elkskin; whole hide used; split down belly, laced together in front; legs cut off and wearer's arms thrust through holes; neck of animal placed around wearer's neck; rump of hide hangs down to wearer's heels. Skin often dyed red with alder. Protects whole body except head and arms; restricts movements. Used in war and at dances. Rod armor also, reported by Curtis.[78]

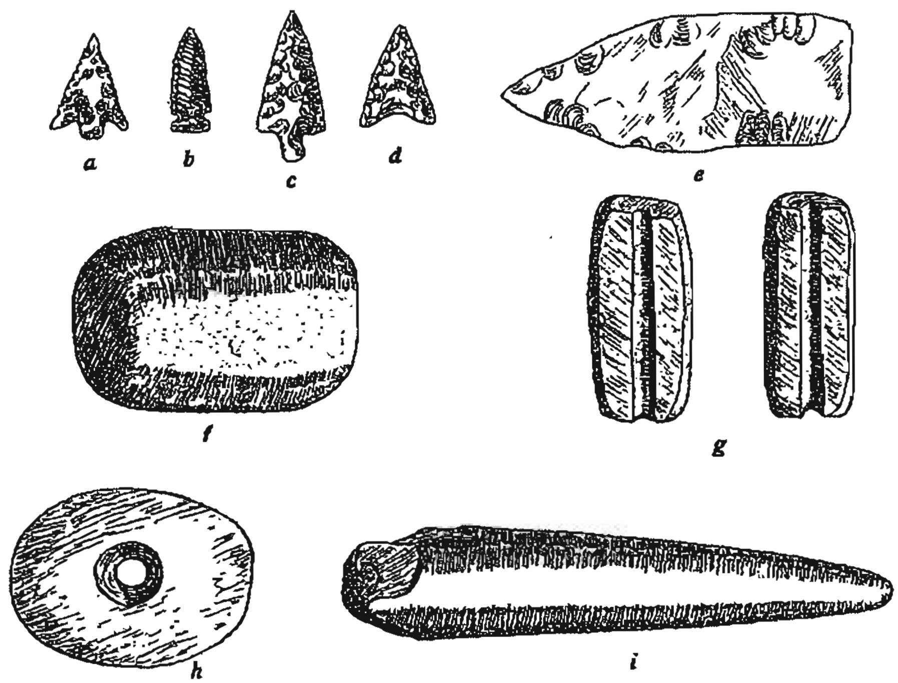

Fig. 3. Stone artifacts. *a–d*, arrowpoints: *a* (1–27980), *b* (1–27993), each 1 inch long; *c* (1–27978), 1½ inches long; *d* (field sketch). *e*, spear point (1–27966), 3½ inches long; *f*, anvil or hammer-stone (1–27972), 4½ inches long, 2 inches thick; *g*, arrow polisher (1–28013), 3¾ inches long; *h*, arrow straightener (1–27962), 4½ inches in greatest diameter; *i*, pestle (1–28033), 10 inches long.

Arrow (not).—Shaft of reed or pithy wood; tip of hardwood inserted in hollow center of main shaft, and glued; point of obsidian; total length *ca.* 3 feet. Three bands of hawk or buzzard feathers split and wrapped on; sometimes in addition glued with pitch or salmon-skin glue. Nock groove *ca.* ⅛-inch deep. May have bands of color near feathering. Arrows counted in sets of 20. Blunt arrows for birds. Release, primary. Release gesture used in telling myths differed from actual release; that is, right arm held straight out from shoulder at right angle to side of body; left arm flexed across chest, thumb and middle finger of left hand flicked to indicate arrow release[79] (see Craftsmen and Specialists).

[77] See War. [78] Curtis, *op. cit.*, 14:80.

[79] Arrow figured in Mason, O. T., North American bows, arrows, and quivers, SI–AR, 1893, pl. 91, 1894.

Arrowpoints (dokos).—Chiefly obsidian, some of other tractable stone; red and white considered supernaturally poisonous, especially red; gray thought particularly efficacious for bear; no natural poison used. Notched point attached by figure-eight lashing; used in hunting (fig. 3*b*). Unnotched point glued in split end of arrow, sometimes bound with sinew (fig. 3*a*, *c*). Used in war because point remained imbedded in flesh when arrow was extracted. Points made by pressure-flaking with bone or horn awl. Stone held on heel of thumb protected by deerskin guard. At Soda Springs, East fork of Trinity river, cache of arrow and spear points; *ca.* 1500 already removed. Of types figured, some have one flat, one convex surface. One aberrant type (fig. 3*d*). Bone points also reported (?) (see also Craftsmen and Specialists).

Arrow polisher (loruteus).—Two flat stones with opposed grooves. Small enough to be held in one hand (fig. 3*g*). Further polishing with coarse Equisetum.

Arrow straightener.—Flat perforated rock. Wood softened by passing through leaves steaming on coals (fig. 3*h*).

Bow (kulul).—Yew, seasoned by suspending in shade with weight on one end until dry; "best to get wood for bows and arrows in midsummer before the sap sinks." Back reënforced with shredded deer sinew (lau); strips 3 to 4 inches long, chewed soft; pasted on in parallel strips with salmon-skin glue. Bow bent reversely when sinew applied to give stiffness. Horns of bow turn outward. Length *ca.* 3 to 3½ feet; greatest breadth above and below grip, *ca.* 1½ to 3 inches; cross-section: inside flat, outside convex; thickness ¼-inch to ½-inch. Grips both pinched and unpinched, either wrapped with buckskin for *ca.* 3½ inches or unwrapped. Back usually painted with triangles in 4 decorative bands. Tips: triangular notches, often bound with sinew; below tip, on more ornate bows, bands of otter fur, buckskin, or sinew. String: twisted sinew, best from either side of deer's backbone; looped over top notch, looped and wrapped on bottom notch; top loop unstrung when not in use. Bow held horizontally or diagonally to ground when shot. Short bows, *ca.* 1½ feet, used for entering bear dens.[80]

Club.—Heavy wood such as manzanita or oak, *ca.* 1½ feet long, one end knotted, unfashioned.

Dagger (tilteup).—Made from bone in foreleg of bear; *ca.* 10 inches long; tip sharpened; perforated handle through which thong handle is passed (modern ?). Formerly worn in man's topknot. Bear bone considered poisonous. Daggers also made of deer bone (noptcup). Used only for fighting. Indistinguishable from awl.

Quiver (apmes).—Hide obtained by skinning animal over its tail, therefore no seam; no compound pouch. Used with fur side in. Hung over shoulder. Otter and fisher quivers most popular; fox, skunk, raccoon quivers used also. Held usually *ca.* 40 arrows (2 sets of 20); other small articles might be carried in it[81] (see Trade and Values).

Shield.—None.

Sling (bimtcus).—Strip of sinew fastened to either end of an oblong of leather. For small game. Contradictory statements on its use in war. Oblong stones with an encircling groove found archaeologically, identified by some informants as sling stones, by others as charm stones.

Spear (olwanus).—2½ to 3½ feet long; points *ca.* 6 inches long, 2½ inches wide (fig. 3*e*). Used as thrusting implement in war or bear hunt.

TOOLS

Boat.—No canoe. Raft (nudoli), 2 or 3 logs, or bundles of poles, *ca.* 10 feet long, lashed in 3 or 4 places with grapevine or withes. Brush sometimes piled on to keep navigator above water. No paddles; used poles. Chiefly to cross streams; no navigation up and down rivers. Supplies or even small children floated across streams in large baskets.

80 Bow figured in Mason, *op. cit.*, pl. 63, fig. 3.

81 Quiver figured in Mason, *op. cit.*, pl. 91.